1. Date Prepared: August 31, 2005

2. Firm Name

Innovative Technical Solutions, Inc.

Business Address and Primary Phone Number
1501 West Fountainhead Parkway, Suite 360
Tempe, Arizona 85282
(480) 706-6488

2.1 Submittal is for

X	Parent Company		Branch or Subsidiary Office

3. Year Present Firm was Established: 1994

4. Specify type of ownership and check below, if applicable.

a. Small Business	b. Small Disadvantaged Business	c. Women – Owned Business
	X	

5. Name of Parent Company, if any:

5.1 Former Parent Company Name(s), if any:

5.2 Year Parent Company was Established: 1994

6. Names of not more then two Principals to contact:

	Name	Title	Telephone Number	Fax Number
1.	Lawrence E. Phillips, R.G.	Senior Project Manager	(480) 706-6488 ext. 3393	(480) 704-2952
		E-Mail Address:	lphillips@itsi.com	
2.	Tej P. Singh	Vice President	(925) 946-3110	(925) 256-8998
		E-Mail Address:	tsingh@itsi.com	

7. Total Personnel by Discipline: (List each person only once, by primary function)

25	Administrative	1	Electrical Engineers	0	Oceanographers	7	Environmental Scientists
4	Architects	2	Estimators	0	Planners: Urban/Regional	45	Program/Project Managers
5	Chemical Engineers	10	Geologists	0	Sanitary Engineers	23	Technicians
17	Civil Engineers	0	Hydrologists	0	Soils Engineers	4	Health & Safety Specialists
9	Construction Inspectors	0	Interior Designers	0	Specifications Writers	10	QA/QC Specialists
1	Draftsmen	0	Landscape Architects	0	Structural Engineers	53	Remediation/Construction
0	Ecologists	5	Mechanical Engineers	0	Surveyors	39	Other
0	Economists	1	Mining Engineers	0	Transportation Engineers	**262**	**Total Personnel**

8. Summary of Professional Services Fees Received: (Insert Index Number)

Last five years (most recent year first)

	2004	2003	2002	2001	2000
Direct State contract work	1	1	1	1	1
All other domestic work	6	5	3	2	1
All other foreign work	8	8	8	8	7

Ranges of Professional Services Fees "Index"
1. Less then $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 Million
5. $1 Million to $2 Million
6. $2 Million to $5 Million
7. $5 Million to $10 Million
8. $10 Million or greater

9. Profile of Firm's Relevant Project Experience

	Profile Code	Number of Projects	Total Gross Fees		Profile Code	Number of Projects	Total Gross Fees
1.	021	102	$30 million	4.	200	46	$20 million
2.	114	85	$30 million	5.	201	36	$46 million
3.	033	23	$25 million	6.	202	212	$112 million

10. Project Examples, Last Five Years

	Profile Code	"P," "C," "SC," or "IE"	Project Name and Location	Owner Name	Owner Phone Number	Cost of Work	Completion Date (Actual or Estimated)
1.	021 and 114	P	Chemical and Geotechnical Investigations for Wetlands Mitigation, Outer Bair Island, Redwood City, CA	Garrett Turner, San Francisco International Airport; Tom Martens, California Wildlife Foundation	(510) 433-0835 (916) 446-2956	$795,000	11/2002
2.	033	P	Remedial Investigation SWMU 25, Desert Chemical Depot, UT	Paul Zianno, USACE Sacramento District	(916) 557-6993	$173,000	12/15/2005
3.	200	P	RI/FS, Trabuco Bombing Range, Rancho Santa Margarita, CA	Thad Fukushige, USACE, Los Angeles District, Project Manager	(626) 401-4048	$752,000	12/15/2006
4.	201 and 202	P	Design-Build SVE System, Sierra Army Depot, Herlong, CA	Beshara Yared, USACE, Sacramento District, Project Manager	(916) 557-6923	$1.1 million	12/31/2004
5.	202	P	Kettle Creek Mitigation, US Air Force Academy, CO	Joseph Kennedy, Construction Manager	(719) 333-9850	$749,000	7/15/2003

11. Personnel by discipline: (List each person only once, by primary function.) Enter proposed personnel at the Task Assignment Level on line "A".

	A			A			A			A	
1	2	Administrative	9	0	Electrical Engineers	17	0	Oceanographers	25	2	Chemists
2	0	Architects	10	1	Estimators	18	0	Planners: Urban/Regional	26	2	Construction Managers
3	0	Chemical Engineers	11	5	Geologists	19	0	Sanitary Engineers	27	2	Environmental Engineers
4	4	Civil Engineers	12	4	Hydrologists	20	0	Soils Engineers	28	5	Environmental Scientists
5	2	Construction Inspectors	13	0	Interior Designers	21	1	Specifications Writers	29	1	Wastewater Treatment Plant Operators
6	0	Draftsmen	14	0	Landscape Architects	22	0	Structural Engineers	30	1	Health & Safety Program
7	1	Ecologists	15	0	Mechanical Engineers	23	0	Surveyors	31	1	Geoscientist
8	0	Economists	16	2	Mining Engineers	24	0	Transportation Engineers	32	**36**	**Total Personnel**

12. All work by firm currently being performed directly for State Agencies. (list not more then 5 projects)

	a. Project Name and Location	b. Nature of Firm's Responsibility	c. Agency (Responsible Office) Project Managers Name & Phone Number	d. Completion Date (Actual or Estimated)	e. Estimated Cost (In Thousands)	
					Entire Project	Work for Which Firm was/is Responsible
1.	ITSI is not currently under contract for any work being performed directly for any State Agency.					
2.						
3.						
4.						
5.						

13. Work by firm, which best illustrates current qualifications relevant to this contract. (list not more then 5 projects)

	a. Project Name and Location	b. Nature of Firm's Responsibility	c. Project Owner's Name and Project Managers Name & Phone Number	d. Percent Complete	e. Estimated Cost (In Thousands)	
					Entire Project	Work for Which Firm was/is Responsible
1.	Annual Services Contracts 107658 and 116112, Phase I and II Environmental Site Assessments, Light Rail Transit and other projects, City of Phoenix, Arizona	Identify potential and actual environmental concerns that could adversely impact the general environmental conditions of various properties in the City of Phoenix.	City of Phoenix Engineering & Architectural Svcs Dept Linda Palumbo (602) 495-0975 Jennifer Thomason (602) 256-3342	Contract 107658: 100% Contract 116112: 10%	$100,000 $10,000	$100,000 $10,000
2.	Environmental Characterization, Engineering and Remediation, Hunters Point Naval Shipyard, San Francisco, California	Conducted data gap investigation on Parcels E, B & F in support of human health & eco-logical risk assessments. Conducted site-wide GW monitoring and evaluation for pollutants. Conducted site characterization of shoreline and landfill gas monitoring to support landfill closure.	Naval Facilities Engineering Command, Southwest Division (NFEC SW) Claudia Domingo (619) 532-0963	100%	$15,090,082	$15,090,082
3.	Expedited Response for Soil and Groundwater Remediation, Gentile Air Force Station, Ohio	Performed an expedited RA for soil & GW contaminated by chlorinated solvents at multiple locations. Developed & imple-mented long-term GW monitoring strategy. Excavated and transported excavated soil for offsite treatment and disposal. Abandon-ed 35 GW wells and installed 6 new wells.	Air Force Center for Environmental Excellence (AFCEE) Dan House (210) 536-4983	100%	$2,150,000	$2,150,000
4.	Stabilization and Capping for Tailings Pile, Bright Star Mine, Shasta County, California	Stabilized & installed 2-foot cap to prevent migration of arsenic-containing materials. Installed erosion control measures including rip rap, straw waddles, seed, fertilizers, and rice straw mulch on top of the site cap. To prevent unauthorized access, obliterated existing roads & barricaded the site with boulders and earthen barriers to render the site inaccessible to vehicles after remediation.	Science Applications International Corporation (SAIC) Roy Herzig (510) 433-0835	100%	$191,000	$191,000
5.	Interim Removal Action for DP 50 and 51, Davis-Monthan Air Force Base, Tucson, Arizona	Detection, excavation, & disposal of buried aircraft debris & associated contaminants (e.g., metals, solvents, etc.) & restoration of DP 50 and 51 for future development.	U.S. Army Corps of Engineers, Omaha District Steve Ott (402) 221-7670 Davis-Monthan Air Force Base Karen Oden (520) 228-5595	100%	$325,000	$325,000

SECTION 14: RESUMES
PROFESSIONAL LEVEL III

Responsibilities: Limited supervision, independent fieldwork, oversees Professional Levels I and II.
Qualifications No. 1: 4 – 6 years of experience with Bachelors degree.
Qualifications No. 2: 1 – 2 years of experience with Masters degree.

Proposed ITSI Team Members:
David J. Bowers
Peggy Cota
Joni Jorgensen-Risk
Tim Watchers, R.G.
Rebekah Weekly

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
David J. Bowers	Project Superintendent/Scientist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIII	Area of Expertise Environmental sampling, construction management, cost estimations, field work
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Environmental Scientist	Education B.S., 2001, Environmental Resources

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
10	5	40-hour OSHA/HAZWOPER Training (2004) with yearly updates (current); see executive summary for more registrations and certifications

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2004	Present
2.	CS Construction	2002	2004
3.	Sunridge Canyon Golf Course	2001	2002
4.	Club West Golf Course	1996	2001
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Executive Summary of Career Highlights

Mr. Bowers has experience in both construction and environmental work. He has supervised a variety of construction and environmental projects and has demonstrated skill in procurement, cost estimating, cost negotiating, project scheduling, project coordination, project control, construction equipment operation, contractor quality control, soil investigations, groundwater investigations, writing health and safety plans, storm water pollution prevention plans, Contractor Quality Control (CQC) plans, development of project related graphics, project scheduling, project coordination, project control, construction equipment operation, contractor quality control, procurement, cost estimating, and cost negotiating. Mr. Bowers' registrations and certifications aside from those listed above include USACE Construction Quality Management for Contractors (2004) and Current Radiological Worker II, respiratory protection, lead awareness, and General Employee Training (GET) (current). His specific project experience is as follows.

Davis-Monthan Air Force Base, AAFES Site Investigation, AAFES Former Fueling Station, Tucson, Arizona – Project Scientist. Performed soil investigation, identification and sampling of multiple soil borings at a former fueling station. Individually designed, developed and installed a Soil Vapor Extraction (SVE) system to remediate contamination in the soil at depths from thirty to one-hundred thirty feet. Self performed all work including trenching, piping, backfilling, compacting, and electrical connections.

Davis-Monthan Air Force Base, Interim Removal Action Environmental Investigation and Excavation, Tucson, Arizona, Project Superintendent. Project Superintendent for an eight-week-long excavation and restoration of a former World War II-era U.S. Air Force dump and burn site. Project involved the removal of approximately 1,000 tons of reinforced concrete and asphalt and transportation and backfill of approximately 2,000 tons of clean fill. Investigation uncovered eight abandoned bombs of which the first was detonated and found to be filled with sand. The remaining seven were examined onsite and determined to be inert. Performed analytical soil sampling to verify the removal of contaminants to below residential cleanup levels.

Brief Resume Continued

United States Department of Energy, Los Alamos National Laboratory, Los Alamos, New Mexico, Project Scientist. Completed Radiological Worker II training, lead awareness and respiratory protection training. Performed construction of a sampling grid, and soil sampling on a steep plateau slope below a 1940s era incinerator. Sampling included rappelling down the mountain slope in Level C protection including full Tyvek suits, lead and radiation monitors, and half face respirators and sampling incinerator ash to compile a profile for clean-up and disposal.

USACE, Department of Homelands Security – Immigrations and Customs Enforcement, Florence, Arizona – Project Superintendent. Duties included supervision of onsite workers, project documentation, coordination of subcontractor work and communication between the client and the end-user. Performed in-depth quality control on Mechanical (HVAC) installation and balancing, and stainless steel installation. Provided written, verbal, and photographic reports to the Project Manager.

Arizona Department of Transportation, Phoenix, Arizona, and the City of Chandler, Arizona. Performed as the foreman of an eight-man crew and integrated management, motivation, and direction to keep the crew productive and work of the highest quality. Work included development and construction of intersection signal packages including Signal Controllers, Point of Power connection, all conduit and wire installation, and phasing of signal program. Operated backhoe, boom trucks, digger derricks, trenchers, auger trucks and crane machinery.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Peggy Cota	Project Chemist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
PIII	Chemistry; data validation; data management
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)*	Education
Chemist	B.S., Zoology (1973)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
31	31	

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2004	Present
2.	Quality By Design	1999	2004
3.	McKenzie Laboratories, Inc.	1995	1999
4.	Harris Laboratories, Inc.	1989	1995
5.	Analytical Technologies, Inc.	1985	1989
6.	Arizona Agricultural Laboratory	1980	1985
7.	Arizona Commission of Agriculture and Horticulture	1979	1980
8.	Arizona Department of Health Services	1976	1978
9.	Hydroculture, Inc.	1974	1976
10.			

Executive Summary of Career Highlights

Ms. Cota's primary responsibility is validation of laboratory reports and raw data using U.S. Environmental Protection Agency (EPA) Region IX Tier Level review process, Functional Guidelines, Good Laboratory Practices, and EPA Methods, and Quality Assurance Project Plans (QAPP). Her other duties include laboratory electronic audits and review of QAPPs. She has worked on various projects, including Davis-Monthan Air Force Base, Kingman Ground-to-Ground Gunnery Range, Mojave Underground Storage Tank, and Pacific States Steele Corporation (Envirocon). Other projects she has been involved in included working in conjunction with various consulting companies. These companies include Clear Creek Associates of Scottsdale, Arizona; MACTEC and GEC/SA&B of Phoenix, Arizona; Secor International, Inc. of Tempe, Arizona; and Golder Associates of Tucson, Arizona. Ms. Cota's specific project experience is as follows.

Davis Monthan-Air Force Base: Duties include data validation, preparation of data quality assessment reports and tables, review of project related plans such as QAPPs and SAPs, and laboratory electronic audits.

Kingman Ground to Ground Gunnery Range, Chemist. Duties include data validation, preparation of data quality assessment reports and tables.

Pacific States Steele Corporation (Envirocon), Chemist: Duties include data validation, preparation of data quality assessment reports and tables.

Mojave Underground Storage Tank, Chemist: Duties include data validation, preparation of data quality assessment reports and tables.

Clear Creek Associates of Scottsdale, Arizona; MACTEC and GEC/SA&B of Phoenix, Arizona; Secor, International, Inc. of Tempe, Arizona; and Golder Associates of Tucson, Arizona: Duties include data validation and preparation of reports for various projects for the above consulting companies.

Quality by Design, Phoenix, Arizona, Chemist. Primary responsibility was to perform validation on laboratory data for samples analyzed by various organic and inorganic methods. Areas of review included sample custody, care and condition, instrument calibrations, quality control (QC) results, reporting limits, reporting accuracy, quantitation software, sample

Brief Resume Continued

preparation, instrument performance, and manual integrations. Evaluated data using EPA Region IX Tier Level review process, Good Laboratory Practices (GLP), Functional Guidelines, EPA Methods, Standard Methods, and various quality assurance project plans (QAPP). Made judgments as to the usability and defensibility of the data to the client.

Other duties included on-site quality assurance (QA) management for environmental testing laboratories. Responsibilities included laboratory audits for compliance with regard to regulatory methods and Arizona Department of Health Services (ADHS) method requirements; standard operating procedures (SOP) audits and revisions; control charting and updating of laboratory control limits; validation of final reports and laboratory data. Also, did investigation of alleged laboratory fraud involving QA/QC practices. This included an electronic audit of the stored data against Good Automated Laboratory Practices (GALP).

McKenzie Laboratories, Inc., Phoenix, Arizona, QC Specialist. Primary responsibility was to review data packages from pesticide residue analyses for accuracy and compliance with both Good Laboratory Practices (GLP) and client protocols. This included review of data generated from sample preparations, sample extractions, analyses from gas chromatography (GC), mass spectrometry/gas chromatography (GC/MS), high pressure liquid chromatography (HPLC), and standard preparations. Following the review, a report was submitted to the analyst, which consisted of any findings, anomalies and/or corrections noted during the review.

McKenzie Laboratories, Inc., Phoenix, Arizona, Quality Assurance Auditor. Primary responsibility was to assure that procedures in an environmental testing laboratory complied with EPA regulatory methods, in-house quality control criteria and client requirements. Duties included review of final reports for completeness and accuracy; and review of raw data generated from sample receipt, sample storage, sample preparation/extractions and instrumental analyses. This included data generated from volatile and semi-volatile organic compound analyses by GC/MS and GC. Other responsibilities included performing laboratory audits of inorganic and organic analyses. Audits involved observation of the analyst performing the analysis and the review of the data generated by the analyst. After the audit, a written report was submitted to the analyst for responses to any findings and/or concerns noted during the audit.

Harris Laboratories, Inc., Phoenix, Arizona, Quality Assurance Officer/Chemist. Primary responsibility was to assure the quality of work in a laboratory that performed drug testing on blood and urine samples from racing animals. This included reviewing raw analytical data generated from GCMS drug confirmation analysis, HPLC drug quantitation analysis and thin layer chromatography (TLC) drug screening analysis. Also reviewed final reports for accuracy and completeness, and wrote and reviewed SOPs. Developed and implemented QA/QC procedures, including a blind sample-testing program for the laboratory. Also, developed new screening procedures for drug detection using TLC methodology. Laboratory experience included sample extractions, GC/MS drug confirmation analysis, HPLC drug quantitative analysis and TLC drug screening analysis.

Analytical Technologies, Inc. Phoenix, Arizona, Confirmation Supervisor. Coordinated personnel in the confirmation and quantitation of drugs detected in urine and blood of racing animals. This included review of data generated by GC/MS drug confirmation analysis, HPLC drug quantitation analysis and TLC drug screening analysis. Also reviewed sample chains of custody and final reports for completeness and accuracy. Laboratory experience included HPLC drug quantitative analysis and TLC drug screening analysis.

Arizona Agricultural Laboratory, Mesa, Arizona, Agricultural Chemical Analyst. Performed HPLC quantitation of aflatoxin in cottonseed products and did sample extractions of agricultural products for pesticide residue analysis. Developed and implemented HPLC method for aflatoxin analysis and received an award for first place in an aflatoxin collaborative study from the American Oil Chemists' Society.

Arizona Commission of Agriculture and Horticulture, Phoenix, Arizona, Agricultural Inspector. Performed surveillance and detection of insect pests in citrus groves, plant nurseries and residential areas.

Arizona Department of Health Services, Phoenix, Arizona, Biologist. Did surveillance, collection and identification of insects hazardous to public health.

Hydroculture, Inc., Glendale, Arizona, Grower/Research Technician. Responsible for the care of hydroponic crops grown in environmentally controlled greenhouses. Also did research on different crops for use in hydroponic greenhouses.

Hydroculture, Inc., Glendale, Arizona, Laboratory Technician. Performed chemical and instrumental analysis on water, plant tissue and gravel from hydroponic greenhouses.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Joni Jorgensen-Risk	Senior Environmental Scientist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIII	Area of Expertise Preliminary assessment/site inspections; data management; community involvement
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Environmental Scientist	Education B.A., Environmental Studies (1996)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
14	14	Total Quality Management Training (1992); Unexploded Ordinance Training (2002); see executive summary for more information

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2003	Present
2.	Weston Solutions, Inc.	2001	2003
3.	Forsgren Associates	1998	2001
4.	Jacobs Engineering Group	1992	1998
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Executive Summary of Career Highlights

Ms. Jorgensen-Risk has extensive experience in hazardous materials investigations and environmental projects, including collection of soil, soil gas, and groundwater samples, preparation of work plans, preparation and implementation of sampling plans, preparation of records research reports, preparation of remedial investigation reports, and project and program management. She has performed as a project scientist on more than 40 projects for clients including the U.S. Army Corps of Engineers, the USEPA, the Department of the Navy, AFCEE, and McClellan Air Force Base. Ms. Jorgensen-Risk also has many years of experience in community relations support and outreach programs. She also specializes in marketing, technical editing, report writing, interviewing, and archival research at federal facilities. Ms. Jorgensen-Risk also is proficient in SQL, FoxPro, Microsoft Office Software, EQuIS Environmental Data Management Software, and JESS Field Data Acquisition Software. Her registrations and certifications aside from those indicated above include Blood Born Pathogen Training (1994-1998), OSHA 40-hour OSHA Health and Safety Training (1995), and 8-hour OSHA Refresher Training (current).

Preliminary Eligibility Assessment Project, 66 Locations, Arizona and California, Technical Lead. Assessed 66 locations. Primary author and coordinator for multi-faceted reporting process.

Project Data Manager. Responsible for resolution of problems with data in a relational database. Used SQL query language, along with EQuIS and EQreport to enhance data management utilization. Supervised summer interns.

Data Manager. Acted as point of contact for chemistry department as well as liaison with laboratory. Processed soil and groundwater sampling data coordinated with geologic log information from investigations. Performed all data entry as well as research and verification of compiled information.

EPA Site Assessment Program, Program Manager. Provided fiscal management and reporting for over 130 sites, focusing on preliminary assessments and site investigations. Responsible for meeting planning and coordination, funding requests, workload projections, and staff assignment.

Groundwater Modeling Assessment, Glendale Operable Unit of the San Fernando Valley Superfund Site, Primary Researcher. Researched and compiled documents including all available previous environmental investigations performed and historical documents identified by the USACE.

Brief Resume Continued

Treasure Island, Department of the Navy, SWDIV, San Francisco, California, Restoration Advisory Board Support. Responsible for implementation of monthly RAB meetings. Implementation includes meeting announcements in one local newspaper, review of verbatim transcripts completed by a court reporter, and development of meeting minutes. Responsible for distribution of meeting materials to RAB members and interested parties of the community.

Hunters Point Shipyard, Department of the Navy, SWDIV, San Francisco, California, Community Support Services. Responsible for implementation of monthly RAB meetings. Implementation includes meeting announcements in two local newspapers, close coordination with client regarding meeting content and presentation materials, development of agenda, review of verbatim transcripts completed by a court reporter, and development of meeting minutes. Responsible for distribution of meeting materials to RAB members and interested parties of the community. RAB Subcommittee meeting coordination and announcement distribution. Development and distribution of the Membership Bylaws and Community Outreach subcommittee meeting minutes. Responsible for updating the information repository on a monthly basis. Development and implementation of Community Information Fair held in the local community to provide Installation Restoration Program information and materials to the local communities. Development and distribution of Newsletters and Fact Sheets to 3,500 interested parties. Close coordination with the client to discuss, develop and formulate community outreach goals. Close coordination with various neighborhood and community based organizations to provide educational presentations.

Public Involvement Plan and Program Support for RI/FS, Former Trabuco Bombing Range, Rancho Santa Margarita, California. Instrumental in the development of three community interest surveys that also included the development of an on-line survey. Designed and distributed a focused mailing session introducing the local communities to site activities and soliciting their participation. Provided close coordination with the client to discuss, develop, and formulate public meeting objectives, goals, and presentation materials. Developed the Public Involvement Plan for the RI/FS project.

Community Relations Specialist, Public Involvement Plan and Program Support for Recurring Review, Former Camp Elliott, San Diego, California. Developed three community interest surveys. Provided close coordination with the client to discuss, develop, and formulate public meeting objectives, goals, and presentation materials. Developed the Public Involvement Plan for the Five-Year Recurring Review project.

Client Service Manager. Provided marketing and brown bag development and presentation with a focus on ordnance and explosives projects.

USEPA Site Assessment Program, Program Manager. Provided fiscal management and reporting for over 130 sites, focusing on preliminary assessments and site investigations. Responsible for meeting planning and coordination, funding requests, workload projections and staff assignments.

Titan I-B Missile Facility, Sutter Buttes, California, Project Manager. Responsible for scheduling, budgeting, fiscal reporting, meeting planning and coordination. Performed report writing and subcontractor coordination and contracting. Coordination with staff, subcontractors, client and regulatory agency to facilitate aggressive schedule and site closure.

Concord Naval Weapons Station, Environmental Status Report, Primary Researcher. Authored Environmental Status Report. Documents researched and compiled included all available previous environmental investigations performed for sites in the Inland area, historical drawings, and historical documents. Other tasks included Access Database development and maintenance, interviews with former and current personnel, and extensive aerial photograph review.

Camp Roberts Basewide Site Inspection Project, Technical Lead and Primary Researcher. Compiled technical documents and plans for 29 sites identified in the SOW and potential sites identified from documents recovered. Technical support in preparation of and during site investigation activities. Assisted in the development of work plans for field sampling activities. Developed, coordinated, and finalized the QAPPs and the HSPs for the sites.

General Support, Benicia Arsenal, Project Scientist. Provided general oversight and technical support for the Benicia Arsenal Community Relations and Restoration Advisory Board subcontractor. Responsible for the completion and finalization of the Benicia Arsenal Records Research Report. Coordination with staff, subcontractors, and client to facilitate real-time review and aggressive schedule. Assisted in the development of work plans for field sampling activities. Developed, coordinated, and finalized the QAPPs and the HSPs for the sites.

McClellan AFB, Environmental Scientist. Responsible for the collection of soil, soil gas, and groundwater samples during field investigations. Acted as property manager and also performed radiation surveys of surface soils.

Castle Airport (formerly Castle AFB), Environmental Scientist. Field supervisor during the installation and development of groundwater extraction, injection, and monitoring wells. Responsible for the collection of soil, soil gas, and groundwater samples during field investigations.

Former Santa Rosa Army Airfield, Project Scientist. Assisted in the preparation of work plans, including the field sampling plans and quality assurance project plans, and the site investigation reports for two field investigations.

McClellan and Castle AFBs, California, Environmental Scientist. Responsible for data reduction and data loading from various field investigations. Performed troubleshooting for lost, mismatched, and cross-assembled data. Responsible for training of site data technicians, field coordination with site supervising geologist regarding scheduling and sampling requirements. Served as liaison with laboratory.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Tim Watchers, R.G.	Project Geologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIII	Area of Expertise Phase I/II environmental site assessments; soil boring logs; well installation
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Geologist	Education B.S., Geology (1985); Post B.S., Hydrology for Engineers (CSUH) (1986)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
20	20	R.G., 1996 (CA); Licensed Geologist, 2002 (WA); Professional Geologist, 2003 (UT); see executive summary for more information

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1995	Present
2.	Groundwater Technologies, Inc.	1986	1995
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Executive Summary of Career Highlights

Mr. Watchers has extensive experience with Phase I and Phase II environmental site assessments, including reporting, work plan preparation and execution. His project activities include excavations, UST removals, direct push investigations, auger and air rotary groundwater monitoring well installations, and groundwater/vapor monitoring and sampling. Mr. Watchers has been involved in final report preparation including appropriate agency interactions and conclusions from data review and applicable closure recommendations. He also performs field activities in support of remedial action activities, including sample collection and classification, well installation and development, data assessment, and report writing. Mr. Watchers has prepared work plans and drilling permits and has conducted field work including soil boring and monitoring well installations, monitoring and sampling of water wells, and agency and aerial photography reviews. He has performed site assessments and waste removal and has prepared closure reports, quarterly monitoring and sampling reports and work plans. He has been involved in the preparation and presentation of proposals. Mr. Watchers' registrations and certifications aside from those listed above include 40-hour OSHA Hazardous Waste Training, 8-hour OSHA Hazardous Training Refresher (current), 8-hour OSHA Supervisor Training, 8-hour Radiological Worker Training, 8-hour Competent Person (Trenching, Excavation, and Shoring), and Lead Awareness Training. All training courses are current and up to date

US Army Corps of Engineers, Davis Monthan Air Force Base, Tucson, Arizona, Site Superintendent

Responsible for over seeing site drilling and associated activities. Activities included air knife investigations of proposed soil boring locations before the drilling and installations of 380-foot groundwater monitoring wells adjacent to the active flight line. Activities also included the utilization of sonic and air rotary drilling techniques for the further UST investigation at the J3 jet fuel pump station. Responsible for the collection of field data including soil boring logs, Chain of Custody forms and health and safety of the drill crew and other sub-contractors during activities. Soil cores were preserved, categorized, labeled and stored on site for review. Over saw and coordinated the installations of multiple stage soil venting wells and the retro-fitting of existing soil vapor wells for vapor extraction efficiency. Abandoned soil borings using the drill crew and other sub-contractors. Collected soil and gas samples were delivered to an onsite mobile laboratory for immediate analyses to aid in the investigation. Over saw and performed investigation derived waste removal activities from the J3 Pump house site. Performed partial soil characterization at two other UST sites at DMAFB. The sites require further investigation through soil investigation before closure.

Brief Resume Continued

US Army Corps of Engineers, Hamilton Army Air Field and Other Former Military Facilities, Field Technician. Performed field support at several former military facilities under USACE oversight including Hamilton Army Air Field (HAAF). Work at HAAF included collecting soil and groundwater samples from stockpiles, excavations, temporary wells, and ponds. Drilled soil borings and collected soil samples for the former HAAF base wide investigation. Performed underground storage tank (USTs) removal from the former hospital at HAAF with associated documentation (maps) and soil verification sampling. ITSI had detected methane gas leaking toward a new housing development adjacent to the closed HAAF Landfill 26 during a routine groundwater monitoring and sampling event. The HAAF Landfill 26 investigation included monthly air and gas monitoring and sample collection. Field activities associated with Landfill 26 investigations included documentation of daily site activities, including excavation maps, sample collection logs, chain-of-custody forms coordination of field activities. Investigation derived waste consisting of soil and groundwater was profiled and removed to approved local landfills for disposal and recycling. CPT investigations with electronic log interpretation and gas sample collections were also performed at HAAF Landfill 26 during the investigations.

US Navy and US Air Force, Active Military Facilities, Field Technician. Performed field support at several active military facilities under US Navy and USAF oversight, including aquifer testing at Travis Air Base and soils sampling at LeMoore Naval Air Station. Landfill investigation at Hunter Point Naval Ship Yard. Activities included radioactive screening of soil samples during a site landfill investigation. Gas monitoring at a landfill fitted with an impermeable barrier to collected data on the effectiveness of the protective membrane. Other activities at Hunters Point included the removal of several hundred wood and concrete dry dock supports from a flooded dry dock utilizing underwater dive crews.

Rough and Ready Island NCS Stockton, Field Environmental Assessment. Performed the field environmental assessment of Rough and Ready Island NCS Stockton. Provided oversight of cone penetrometer testing with log interpretation for the oversight investigation through the installation and completion of over 200 shallow, intermediate, and deep groundwater monitoring wells at suspect areas throughout the island. Also oversaw the hundreds of shallow and deep direct push soil and water borings throughout the island during the effort. Activities included soil and water sample collection, field note preparation, Chain of Custody documentation, soil boring logging, well development. Activities were also performed in the Rough and Ready Island wild life habitat. Extreme measures were utilized for the preservation of the natural habitat.

Chevron U.S.A. Products Company, The Southland Corporation (i.e. 7/11 stores), Texaco Environmental Services and World Oil service stations. Performed site assessments for the listed agencies. Prepared and executed of assessment proposals and budgets. Was responsible for the permitting, scheduling, and execution of active and inactive gasoline stations. Coordinated the removal of investigation derived waste from groundwater and monitoring events as well as soil and water waste streams. Regionally, designed and initiated an effective liquid waste removal platform for Chevron U.S.A. Products Company and The Southland Corporation.

US Army Corps of Engineers, Field Activities. Provided USACE field activities for high public profile former military facilities such as the Hamilton AAF in Novato, California. Activities included stringent activity documentation, excavations, landfill monitoring, soil and groundwater sampling, installation of temporary and permanent groundwater/vapor monitoring wells, soil and water waste profiling and subsequent waste removal. These activities were conducted under the observation of local public agencies, USACE representatives and other interested parties.

Arco and Chevron U.S.A. Products Company, Various Projects, Project Manager. Performed project management for approximately 190 quarterly monitoring and sampling projects for Arco and Chevron U.S.A. Products Company. Management activities included coordination of field activities, review of raw field data, laboratory contact and supervision of quality and data, initiation of a trip blank control system for quality control assurance. Client contact for progress of work, change of scopes, and review of quarterly monitoring and sampling reports. Began a monitoring and sampling waste water disposal program for Chevron USA Products Company, saving the client time and money. Responsible for budget monitoring, preparation, review, submittal, and revisions.

Chevron U.S.A. Products Company, The Southland Corporation (i.e. 7/11 stores), Texaco Environmental Services and World Oil service stations. Performed site assessments for the listed agencies. Prepared and executed of assessment proposals and budgets. Regionally, designed and initiated an effective liquid waste removal platform for Chevron U.S.A. Products Company and The Southland Corporation.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Rebekah J. Weekly	Project Scientist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIII	Area of Expertise Phase I and II investigations; environmental sampling; data management
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Environmental Scientist	Education B.A., Environmental Studies and Geology (2000)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
7	7	40-hour Hazardous Materials Incident Response Operations Training (2000); 8-hour Hazardous Waste Site Operations Refresher Course (current)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2003	Present
2.	Weston Solutions, Inc.	2000	2003
3.	Gustavus Adolphus College, Geology Dept, Pelican River Watershed District	1999	1999
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Executive Summary of Career Highlights

Ms. Weekly's areas of expertise include all performance and management of Phase I and Phase II ESAs, work plan preparation, groundwater sampling, soil sampling, water level measurements, maintaining databases, creating site maps, and report preparation. The ESAs she has worked on were performed in accordance with current ASTM standards. She has also performed field remedial investigation activities including the collection of depth-to-groundwater measurements and soil-gas samples and soil and groundwater sampling under proper chain-of-custody protocols. Ms. Weekly has also maintained document control of analytical results, and created site and data maps using Adobe Illustrator/Photoshop, ArcView GIS, AutoCAD, and IntelliCAD. Her specific project experience is as follows.

Phase I and II Environmental Site Assessments and Biological Services, On-Call Consulting Contracts, City of Phoenix, Arizona, Project Manager. Completed 53 Phase I ESAs and four Phase II ESAs on individual lots and right-of-ways in Phoenix Arizona for the City of Phoenix as part of the Light Rail, Hope VI, and Community Noise Reduction projects. The objective of the Phase I ESAs, conducted in accordance with ASTM Standard E1527-00 and City of Phoenix standards, was to identify recognized environmental conditions associated with the historical use of the properties, ascertain the current physical condition of any buildings and adjacent grounds, and present operational practices. Assessment information was collected via property reconnaissance, records reviews, and interviews with facility representatives, government and local officials. The Phase II ESAs consisted of geophysical surveys to determine the existence or absence of former underground storage tanks and advancing borings to collect soil samples to determine if contamination exists.

Phase I and II Environmental Site Assessments for the United States Department of Agriculture (USDA), Agricultural Research Service (ARS) Facilities, Phoenix, Arizona, Project Scientist. Performed Environmental Site Assessments in accordance with current ASTM standards. Activities included historical research, interviews, drafting, report preparation, and field reconnaissance of office buildings, laboratories, mechanical rooms, greenhouses, chemical storage areas, and agricultural research fields located at the USDA ARS facilities in Phoenix, Arizona.

Brief Resume Continued

Installation Restoration Program, United States Army Corps of Engineers (USACE), Omaha District, Davis-Monthan Air Force Base (DMAFB), Tucson, Arizona, Project Scientist. Performed quarterly groundwater sampling and depth-to-groundwater measurements, installed monitor wells, collected soil and soil-gas samples, and assisted in the Operation and Maintenance (O & M) of a landfill SVE system.

Titan II Missile Site 12 (AOC 8), Limited Preliminary Assessment/Site Investigation (PA/SI), USACE Omaha District, DMAFB, Tucson, Arizona, Project Scientist. Conducted research on former Titan II Missile sites, preformed a soil boring investigation and collected soil samples at Titan II Missile Site 12, assisted in report preparation, and responsible for drafting site maps and sample location maps.

Groundwater Monitoring, Arizona Department of Environmental Quality (ADEQ), Phoenix, Arizona, Environmental Scientist. Performed field remedial investigation (RI) activities at the Rinchem, Hill Brothers, West Osborn Complex, Osborn Products, Southwest Corner Source Area, and Van Waters and Rogers Water Quality Assurance Revolving Fund (WQARF) Registry Sites, including the collection of depth-to-groundwater measurements, groundwater and quality assurance sampling, installation of monitor wells, characterization of soils, and soil sampling. Sampling activities were conducted in accordance with the Field Sampling Plans prepared for the Sites and included the use of low-flow purging techniques. Other responsibilities included collecting investigation derived waste (IDW) wastewater samples for discharge into a COP sewer in accordance with a COP permit, maintaining a daily logbook, and preparing chain-of-custody documentation.

Water Level Task Assignment, ADEQ, Phoenix, Arizona, Environmental Scientist. Measured water levels in over one hundred wells on a monthly basis in the West Central Phoenix WQARF Area. Maintained logbook for data collection. Responsible for evaluating and maintaining access agreements and sending access letters to notify property owners of monthly water level events.

Data Evaluation, ADEQ, Phoenix, Arizona, Environmental Scientist. Created water level and concentration contour maps for upper alluvial unit in the vicinity of the Rinchem and Hill Brothers facilities in the North Plume WQARF Registry Site. Created monitor well diagrams, analyzed and created boring logs and cross-sections of soil lithology using Geotechnical Groundwater Graphics. Responsible for maintaining water quality database and document control of analytical results.

Vulture Mill, ADEQ, Wickenburg, Arizona, Environmental Scientist. Performed RI activities at the Vulture Mill WQARF Registry Site. Collected soil samples to identify and characterize the full extents of lead-impacted soil for use in the Final Soils Remedy Design. Created maps using to display sample grid, sample locations, and analytical results. Responsible for logging over 1600 soil samples, maintaining accurate field notes, maintaining daily logbook, and preparation of chain-of-custody documentation. Worked closely with ADEQ Project Managers, property owners, and subcontractors to determine sample design and procedures.

Lynx Creek/Hassayampa River Watershed PA/SI Projects, USEPA, Phoenix, Arizona, Environmental Scientist. Performed HRS scoring and sediment data compilation and evaluation. Complied and evaluated soil and surface water sampling results to include in required reports. Prepared reports associated with all data and information obtained.

A-10 Crash Site, Corps of Engineers, Douglas, Arizona, Environmental Scientist. Assisted in the Rapid Response clean-up activities for the A-10 Crash Site. Worked closely with Unexploded Ordinance Officers (UXO), Corps of Engineers representatives, and subcontractors to expedite and organize the cleanup efficiently.

El Paso County/Dona Ana County Metals Survey, USEPA/Corps of Engineers, El Paso, Texas, Environmental Scientist. Assisted in the collection of property access agreements for 1,000 residential properties in El Paso, Texas for further surface soil and subsurface soil sampling. Elevated levels of arsenic and lead were found in residential and high access areas such as parks and day care centers within the area of interest during previous sampling events.

Water Quality Monitoring, Pelican River Watershed District, Detroit Lakes, Minnesota, Water Quality Monitoring Intern. Collected samples from lakes, streams, wetlands and monitoring wells at the Pelican River Watershed District. Surveyed stream gages in the Watershed. Measured in-stream flows and calculated pollutant loading for streams and lakes. Maintained database of analytical results, survey data, and flow measurements. Assisted with data analysis and created maps in ArcView displaying project results for use in Quarterly Reports submitted to the Board overseeing activities within the Watershed.

SECTION 14: RESUMES
PROFESSIONAL LEVEL IV

Responsibilities:	Manages projects of moderate scope, prepares cost estimates, supervises others.
Qualifications No. 1:	6 – 8 years experience with Bachelors degree OR registration (PE or RG).
Qualifications No. 2:	3 – 4 years experience with Masters degree.

Proposed ITSI Team Members:
Ralph Arcangeli, P.E., P.G.
Evelyn H. Dawson
Eric Ehlers
Clare Gilmore
Dan R. Ledford
Frank Van Alstine

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Ralph Arcangeli, P.E., P.G.	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIV	Area of Expertise Soil and groundwater remediation system design, construction, installation, optimization; cost estimation; permitting
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Engineer	Education B.S., Civil Engineering (1986); B.S., Geology (1981)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
22	22	P.E., Civil Engineering, 1991 (AL, FL, GA, IL, MS, MO, NY, OH, SC, TN); P.G., Geology, 1996 (AL); see executive summary for more information

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2004	Present
2.	Shaw Environmental and Infrastructure, Inc.	1998	2003
3.	Roy F. Weston, Inc.	1988	1998
4.	Harmon Engineering, Inc.	1986	1988
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Executive Summary of Career Highlights

Mr. Arcangeli has extensive experience in civil engineering, environmental engineering, and geological project experience. His project experience includes traditional civil engineering design and construction, structural and mechanical system design and construction, soil and groundwater contamination, investigation and remediation, engineering evaluations, asbestos and lead-based paint abatement, environmental permitting, cost estimation, and construction management. Mr. Arcangeli's registrations and certifications aside from those listed above include California Certified Hydrogeologist (1996), California Registered Geologist (1994), 40-hour Hazardous Waste Site Worker (current), 8-hour Hazardous Waste Site Supervisor (current), and USACE Construction Quality Management (CQM) for Contractors Course (1996). His specific project experience is as follows.

Groundwater Investigation and Remediation of Multiple TCE Plumes, Dobbins Air Force Base, Marietta, Georgia, Project Manager and Lead Engineer. As the Project Manager, was responsible for the investigation and remediation of groundwater contamination at multiple sites. Project work involved conducting RIs, pilot testing, and interim remedial actions for groundwater remediation. Other tasks included the operation and maintenance of the interim control measure groundwater collection and treatment system. As Lead Engineer, was responsible for the construction, startup, operation, and retrofit design of a groundwater collection and treatment system at the Base. The treatment system consisted of an array of groundwater recovery wells placed to form a capture curtain at the leading edge of several TCE plumes. Contaminated groundwater is collected and transferred by remote pump stations through pipelines to a central area for treatment. The treatment system consists of an air stripper, SVE unit, carbon filters, and a series of above ground process and storage tanks.

Soil and Groundwater Investigation, Fort Gillem, Clayton County, Georgia, Project Manager. Responsible for the investigation and remediation of soil and groundwater contamination at 19 DOD Installation Restoration Program (IRP) sites. Project work involved performance of site investigations, RIs, FSs, bench scale and pilot scale testing for in situ chemical treatment technologies, interim remediation actions, and development of closure plans, as appropriate for specific sites. Tasks also include preliminary assessment, site investigation, RIs and community relation activities for offsite contamination issues.

Brief Resume Continued

Soil and Groundwater Contamination Assessment, Madison, Florida, Lead Engineer. The project required investigation for delineation of pesticide contamination on an abandoned farm property. Tasks included selection of drilling subcontractors, installation of soil borings and groundwater monitoring wells, and collection and analysis of soil and groundwater samples. A contamination assessment report was developed for submittal to the Florida Department of Environmental Protection.

Phase II Site Investigations, Various Locations in Six States, Lead Engineer. Responsible for conducting Phase II site investigations at 14 sites located in the states of California, Nebraska, Ohio, Tennessee, Virginia, and Washington. The project required development of a work plan, selection of drilling contractors, installation of borings and groundwater monitoring wells and collection of soil and groundwater samples for analysis.

Interim Remedial Actions for Chlorinated Solvents and Risk Assessment, Fort Gillem, Clayton County, Georgia, Project Manager. Responsible for implementation of interim remedial actions, geochemical evaluations, and community relations activities at Fort Gillem. Project work involved execution of interim remedial actions for time-critical removal of chlorinated solvent source materials resulting in soil and groundwater contamination. Geochemical evaluations resulted in the development of background criteria for metals in groundwater, soil, sediment, and surface water for their use in risk assessment and establishment of remedial action goals. Community relations activities included development of a newsletter for distribution to area residents, agencies, and media outlets to describe current conditions and the continuing activities performed under the Installation Restoration Program at Fort Gillem.

RCRA Facility Investigation and Corrective Measures Study (RFI/CMS), Oklahoma City Air Logistics Center, Tinker Air Force Base, Oklahoma City, Oklahoma, Project Manager. Responsible for the development of an RFI/CMS for area CG-40. This work required groundwater sampling, collection of soil gas samples, development of a groundwater model, and completion of an RFI/CMS report.

Radon Abatement System Design, Coast Guard Facility, Lead Engineer. Performed a building evaluation for radon gas, developed remedial alternatives, and prepared and engineering design and cost estimate for building modifications to abate radon gas.

Permitting and Design of a Solid Waste Transfer Station, Lead Engineer. The design included plans and specifications for access roads, site grading, a structural concrete building and tipping floor, a metal transfer station building, an office building, a truck scale layout, and site security.

Landfill Cover Design, Tinker Air Force Base, Project Manager. Responsible for design of drainage systems for two landfill covers. This project includes a land survey of two closed landfills and the surrounding areas and evaluation of groundwater and surface water data to determine the cause for ponding water. A surface water drainage system design was selected for the remedy and recommendations for mitigation of groundwater seepage were provided.

Landfill Leachate Conveyance Systems Design and Construction Oversight, Lead Engineer. Developed plans and specifications for piping, equipment, and civil engineering work necessary for installation of landfill leachate collection, storage, and loading systems. Components of the designs included landfill cell pump stations, force mains, lift stations, truck loading racks, pump stations, multiple ASTs with foundations and secondary containment, and access roads.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Evelyn H. Dawson	Project Chemist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
PIV	Chemistry; data validation; data management
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)*	Education
Project Chemist, Data Validation, Database Management	B.S., Chemistry

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
18	18	Qualified Navy Auditor (2000); 40-hour OSHA Training with annual refresher courses (1994); see executive summary for more information

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2004	Present
2.	Quality By Design	2000	2004
3.	State Farm Insurance	1999	2000
4.	Dames & Moore	1997	1999
5.	Fluid Management, Inc.	1994	1997
6.	Analytical Technologies, Inc.	1988	1993
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Executive Summary of Career Highlights

Ms. Dawson's experience includes quality assurance, environmental chemistry, compliance auditing, and analytical procedures. She has performed as a Senior Chemist as a point of contact for the Southwestern United States and project manager/consultant for regional projects. Ms. Dawson has done project management, quality assurance oversight, data validation, training, field audits, systems audits, performance audits, office management and sales and marketing. She has also worked in an analytical laboratory as a project manager and analyst. Ms. Dawson's registrations and certifications aside from what is referenced above include 8-hour Supervisor Training (1994), HM-126F DOT Training (1998), and Interpretation of Mass Spectra (1991).

Compliance. Audited several laboratories for compliance with State, USACE, Navy, and Federal guidelines. Audited municipalities for compliance with city and state methodologies. Reviewed and updated laboratory QAMs and QAPPs for compliance with EPA Region IX guidelines. Validated and verified several analytical data packages for toxic organics (TO) air analyses for permit compliance. Preparation of SOPs for sampling and handling of whole gas samples. Preparation and evaluation of SOPs for daily compliance with federal analytical methodology.

Quality Assurance. Investigation of alleged laboratory fraud involving QA/QC practices, which included an electronic audit of the stored data against good automated laboratory practices (GALP), process and systems audit of the laboratory, and consultation on efficiency and productivity improvements. Reviewed and updated technical documents such as SOPs, QAPPs, WPs, Site Characterization Plans, SAPs, and Closure Plans to ensure DQOs were appropriate and attainable. Presented training sessions for the process of developing DQOs. Evaluation of data to provide litigation support.

Data Evaluation. Performed data validation and review under the EPA Region IX Tiered approach to data validation for volatile, semi-volatile, pesticides, PCBs, explosives, fuels, metals, inorganic data, etc. Performed data validation and review using the National Functional Guidelines for organic and inorganic data. Reviewed and interpreted environmental data for expert witness testimony support.

Project Management. Preparation and management of project budgets. Preparation of proposals. Monitoring of project status, project deliverables, and quality assurance. Business development, planning and presentations.

Brief Resume Continued

GC/MS Analysis. Operated and maintained HP and Finnigan Mass Spectrometers for semi-volatile and volatile analyses.
Data Management. Experienced with the preparation and submittal of ERPIMS and CA GeoTracker EDDs.
Gila River Indian Community Department of Environmental Quality. Worked closely with the Gila River Indian Community DEQ in preparing the QA plan for wastewater treatment plans on the reservation. Ensured that the QA/QC procedures were stringent enough to meet permitted discharge requirements.
U.S. Army Corps of Engineers, Missouri River Division, St. Louis, Missouri – Quality Assurance Officer. Duties included preparation of the QAPP and Data Management Plan. Also included field and laboratory audits as well as data validation and report preparation.
Wisconsin RCRA – Quality Assurance Manager. Duties included performance of field and laboratory audits, data validation, and laboratory procurement including implementation of performance evaluation samples. Responsible for overall project QA and implementation of corrective action.
U.S. Army Corps of Engineers, South Dakota – Quality Assurance Manager. Duties included data validation and verification, responding to USACE comments on the Remediation and Data Quality Assessment Report, and data management.
DMAFB, Project Chemist. Duties include data validation, response to comments, and review of project-related plans such as QAPPs, SAPs, and WPs. Serves as the point of contact for laboratory and DMAFB chemical staff.
USACE, Various DERP-FUDS Projects, Project Chemist. Duties include data validation, response to comments, and review of project-related plans such as QAPPs, SAPs, and WPs. Serves as the point of contact for laboratory and USACE chemical staff.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Eric Ehlers	Technical Lead
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIV	Area of Expertise Design, construction and installation of soil and groundwater remediation systems (e.g., SVE and air sparge)
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Manager; Project Engineer	Education B.S., 1992, Geology with Environmental Geo-Sciences option

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
11	11	OSHA 40-hour HAZWOPER Training; OSHA HAZWOPER Site Supervisor Training

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2000	Present
2.	AKT Environmental	1997	2000
3.	Envirogen, formerly MWR	1990	1997
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Executive Summary of Career Highlights

Mr. Ehlers provides experience in environmental investigations and remedial actions. He provides specialized expertise in the design, construction, and installation/operation of soil and groundwater remediation systems, including SVE, bioventing system design, and groundwater sparging systems. He has designed and conducted SVE and groundwater sparging pilot tests to design optimal extraction/injection well spacing and flow rates. Mr. Ehlers is also experienced in using steam injection and helium as tracer gases. Pilot tests were designed to evaluate site conditions, determine site-specific pneumatic conductivity, and verify contaminant concentrations in effluent air. Mr. Ehlers has applied the results of these pilot tests to design optimal extraction/injection well spacing and flow rates, determine SVE equipment size, and choose optional air treatment technologies. He has designed and supervised the installation of multiple SVE, groundwater sparging and vacuum dewatering systems, including supervision of SVE and sparge well drilling and installation, above and below ground pipe and equipment installation, and system start-up and sample collection. Mr. Ehlers specific project experience includes the following.

Former Naval Station Treasure Island, San Francisco, California, Technical Lead In-Situ Remediation. Provided investigation, design, construction, and O&M efforts for pilot and full-scale in-situ remediation systems. Supervised project engineers and geoscientists, sample technicians, and O&M personnel. Developed multi-task, basewide in-situ remediation work plan that incorporated brief, site-specific supplemental plans. Prepared work plans and permitting documents. Provided construction management, O&M, system and well-field monitoring, and technical report preparation for a series of four in-situ pilot tests to remediate soil and groundwater. Employed thermally enhanced dual-phase extraction, free product recovery, SVE, bioventing, and biosparging technologies. Sampled and analyzed pilot test data, and for two of the four pilot tests, performed system optimization and expanded the systems to full-scale operation.

Former Machine Tool Manufacturing Facility in Cleveland, Ohio, Project Manager. Managed operations and maintenance of SVE, groundwater sparging, and vacuum dewatering systems for remediation of chlorinated solvent and petroleum contaminated soils and groundwater at an industrial site. The system consisted of 40 air injection/extraction wells, 20 multiple depth groundwater sparging wells, and 12 vacuum dewatering wells. Effluent treatment system consisted of direct discharge of air to atmosphere under local air permit exemptions. Groundwater treatment system consisted of an air-stripper box with discharge to local sanitary sewer under a NPDES permit. Responsibilities included O&M of remedial system

Brief Resume Continued

equipment, measurement of flow, temperature, and pressure parameters for system optimization, collection of system performance and effluent compliance monitoring (vapor and water) samples, preparation of monthly and quarterly system operation and progress reports including yield calculations.

Pump Manufacturing Facility in Benton Harbor, Michigan, Project Manager. O&M of SVE and groundwater pump and treat systems for remediation of chlorinated solvent contaminated groundwater. The system consisted of 18 air injection/ extraction wells and two groundwater recovery wells. Effluent treatment system consisted of two in-series air stripper towers for treatment of groundwater with discharge to storm sewer in accordance with a NPDES permit. Discharge air from the SVE system and the stripper towers was treated using granular activated carbon under permit from Michigan Department of Environmental Quality (MDEQ). Responsibilities included O&M of remedial system equipment, measurement of flow, temperature, and pressure parameters for system optimization, collection of system performance and effluent compliance monitoring (vapor and water) samples, preparation of monthly and quarterly system operation and permit compliance reports including yield calculations.

Research and Development Laboratory, Industrial Manufacturing Facility, Whitehall, Michigan, Project Manager. O&M and optimization of SVE and groundwater sparging systems for remediation of chlorinated solvent contaminated groundwater. The system consisted of five air extraction wells and seven air sparging wells. Air effluent treatment system consisted of three GAC drums in-series with discharge of air to atmosphere under Michigan Department of Environmental Quality (MDEQ) air discharge permit. Responsibilities included O&M of remedial system equipment, measurements of flow, temperature, and pressure parameters for system optimization, collection of system performance and air effluent compliance monitoring samples, preparation of monthly and quarterly system operation, and progress reports including yield calculations. The system successfully reduced contaminant concentrations in groundwater below MDEQ Generic Industrial Risk-Based Target Levels.

Truck Rental Facility, Cleveland, Ohio, Project Manager. O&M of SVE/bioventing and groundwater pump and treat system for remediation of contaminated soil and groundwater. The system consisted of 12 air extraction/injection wells and two groundwater recovery wells. The effluent treatment system consisted of an air stripper box for treatment of groundwater was discharge to storm sewer in accordance with a NPDES permit. Discharge air from the SVE system and the stripper box was discharged to atmosphere under local air permit exemptions. Responsibilities included O&M of remedial system treatment, measurement of flow temperature and pressure parameters for system optimization, collection of system performance and effluent compliance monitoring (vapor and water) samples, and preparation of monthly and quarterly system operation and permit compliance reports including yield calculations. The site received a No Further Action letter from the State regulatory body.

Former Light Fixture Manufacturing Facility in Cleveland, Ohio, Project Manager. O&M and optimization of SVE/bioventing and groundwater sparging systems for remediation of chlorinated solvent and petroleum (heating oil) contaminated soil. The system consisted of 34 air extraction/injection wells and 16 groundwater sparging wells in two separate treatment cells. Air effluent treatment system consisted of three granular activated carbon drums in-series in accordance with local air permit exemptions. Responsibilities included O&M of remedial system equipment, system optimization, collection of system performance and air effluent compliance monitoring samples, preparation of monthly and quarterly system operation and progress reports including yield calculations. The remedial system successfully reduced contaminant concentrations in soil to less than 5 percent of original concentrations. The site received Covenant Not to Sue from Ohio Environmental Protection Agency under the Voluntary Action Program.

Various Projects, Lansing, Michigan, Project Hydrogeologist. Designed full-scale SVE, bio-venting, and groundwater sparging remediation systems. Designed and conducted SVE and groundwater sparging pilot studies. Managed and conducted operation, maintenance and sampling of full-scale remediation systems. Prepared monthly and quarterly system performance monitoring and budget reports for presentation to clients and regulatory agencies.

Various Projects, Lansing, Michigan and Surrounding Areas, Project Geologist. Supervised installation of full-scale SVE, bioventing, groundwater sparging, vacuum dewatering, and groundwater recovery remediation systems in Michigan, Ohio, Iowa and New Jersey. Supervised soil boring and monitoring well installation by direct push and conventional drill rig methods. Performed drilling techniques including hollow-stem and solid-stem augering, air-rotary, water/mud-rotary, and bedrock core sampling. Conducted geophysical surveys using EM-61 deep-penetrating metal detectors to evaluate the presence of suspect underground storage tanks. Supervised and performed soil, soil-gas and groundwater sample collection activities. Collected and compiled data for presentation in reports.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Clare Gilmore	Senior Geologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIV	Area of Expertise Environmental sampling; RI/FS reports; Conceptual Site Models; statistical analysis; wetlands
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Senior Geologist, Project Manager	Education B.S., Geology with Emphasis in Groundwater Hydrology and Environmental Services (1988)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
18	18	40-hour OSHA Certification, Hazardous Waste Management (2001); 8-hour OSHA Certification, Hazardous Waste Mgmt Supervisory Course (current)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2003	Present
2.	Uribe & Associates Engineering and Environmental Consulting Services	1995	2003
3.	Harding Lawson Associates Engineering and Environmental Services	1991	1995
4.	Mare Island Naval Shipyard	1988	1991
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Executive Summary of Career Highlights

Ms. Gilmore is a senior geologist and project manager with experience in environmental consulting and database management. She is experienced in report writing and chemical and hydrogeologic data interpretation. Her project management responsibilities include generating reports and work plans, supervising and mentoring staff, managing budgets and schedules, and procuring and managing subcontractors. Ms. Gilmore is experienced in authoring remedial investigation reports, portions of feasibility studies, quarterly and annual groundwater monitoring reports, agency presentations, groundwater monitoring plans, sampling and analysis plans, health and safety plans, and quality assurance project plans. Her field experience includes soil and groundwater sampling, aquifer testing, tidal influence monitoring, monitoring well installation oversight, and well development. She is also experienced with evaluating chemical and hydrogeologic data to develop conceptual site models, identifying data gaps, providing written and oral presentations of proposed sampling strategies to agency representatives, implementing sampling activities, authoring reports, coordinating the generation of figures, tables, and appendices, reviewing and summarizing human health and ecological risk assessments, and providing technical support and consultation to clients. Ms. Gilmore is also experienced in database programming to facilitate statistical analysis, enhance data tracking, and ensure data quality. Her specific project experience is as follows.

IR15 Remedial Investigation Report, Former Mare Island Naval Shipyard, Project Manager. IR15 is an industrial electroplating site contaminated with metals and solvents. The future use of the area is expected to be industrial. Tasks included reviewing existing site data to assess data gaps, providing recommendations for additional sampling, presenting proposed sampling plans and RI strategies to agency representatives, responding to agency concerns and incorporating agency comments into sampling plans, procuring and supervising subcontractors, implementing sampling activities, and providing technical support and consultation to the client. RI writing tasks included evaluating and interpreting chemical and hydrogeologic data, authoring major portions of the report, coordinating the production of the text, tables, figures, plates, and appendices, and coordinating the writing of the human health risk assessment, ecological risk assessment, and fate and transport modeling sections of the report. Additional responsibilities include providing input for the feasibility study, managing the project budget, schedule, and scope, supervising and mentoring staff, generating monthly status reports and invoice narratives for the client, and providing expenditure and staffing projections for internal planning.

Brief Resume Continued

Zero-Valent Iron Injection Treatability Study, Hunters Point, San Francisco, California, Technical Lead. Responsible for the technical aspects of implementing a treatability study to evaluate and document the effectiveness of ZVI injection treatment technology at reducing or destroying chlorinated solvents in groundwater. Responsibilities also included generating planning documents and obtaining agency approval for study implementation, performing a pre-treatment characterization investigation, conducting ZVI injection and associated baseline and post-treatment groundwater monitoring, and documenting the results in a final report.

Basewide Quarterly Groundwater Monitoring Program, Alameda Point, Alameda, California, Technical Support. Supported Basewide quarterly monitoring of 13 sites with hundreds of wells and dozens of vapor monitoring wells. Contaminants included fuel-related hydrocarbons, chlorinated solvents and metals. Interpreted chemical and hydrogeologic data and documented quarterly and annual groundwater monitoring results.

Various Projects, Project Manager and/or Technical Support. Managed numerous projects including RIs at Mare Island and Hunters Point Investigation Areas, FSs at Hunter's Point, groundwater monitoring programs at various facilities including PG&E manufactured gas plant sites, Navy sites, and City of Oakland sites. Included industrial, residential, open space, and recreational uses, including areas of sensitive wetland habitat.

Novato, California, Staff Geologist. Assisted with report and work plan writing, performed soil and groundwater sampling, borehole lithologic logging, slug testing, and related hydrogeologic data analysis, and supervised monitoring well installation and development. Produced cross-sections, tables, and text for reports. Managed databases for various remedial investigation projects.

Various RI and Groundwater Monitoring Projects, Hunter's Point and Concord Naval Weapons Station, Database Manager. Responsible for maintaining data integrity, accuracy, and completeness for numerous databases tracking analytical results for soil and groundwater samples. Supervised staff in loading data, tracking field samples, and updating analytical results and validation qualifiers. Worked with database users to improve system flexibility, reporting capabilities, statistical analysis, and error checking routes.

Quarterly Groundwater Monitoring Program, Former Alameda Naval Air Station, Project Manager. In addition to project management, specific tasks included generating project work plans, coordinating and supervising quarterly groundwater sampling, managing chemical, groundwater parameter, and water level data, analyzing and interpreting chemical and hydrogeologic data, writing quarterly and annual groundwater monitoring reports, procuring and supervising subcontractors, writing a monitoring well repair plan, and coordinating well maintenance and repair work. Also conducted a tidal influence study and abandonment of a deep water supply well, and generated associated reports.

Additional Experience, Various Sites/Clients, Project Manager. Experienced in managing numerous projects including RI reports at various investigation areas at Mare Island and a FS at Hunters Point Naval Shipyard. Prepared, implemented and managed quarterly groundwater monitoring programs at various US Navy facilities, PG&E manufactured gas plant sites, and City of Oakland sites. These investigation areas encompass current and future uses from industrial to residential to open space and recreational, including areas of sensitive wetland habitat. Has managed the closeout for multi-million dollar federal projects with the US Navy and the Department of Energy. Responsible for managing the budget, schedule, and scope for subsurface soil and groundwater investigation projects, evaluating geochemical and hydrogeologic data, writing work plans and reports, and providing written responses to agency comments. Experienced in generating cost estimates, preparing competitive bid subcontractor procurement packages, selecting and managing subcontractors, and preparing and conducting agency presentations. Routinely manage, supervise and execute field sampling and provide technical mentoring to staff and technical support and consultation to clients.

Remedial Investigation and Groundwater Monitoring, Hunters Point and Concord Naval Weapons Station, Database Manager. Responsible for maintaining data integrity, accuracy and completeness for numerous databases tracking analytical results for soil and groundwater samples. Supervised staff in loading data, tracking field samples, and updating analytical results and validation qualifiers. Worked with database users to improve system flexibility, reporting capabilities, statistical analysis, and error checking routines.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Dan R. Ledford	Program Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIV	Area of Expertise Environmental assessments; RI/FSs; ecology (flora, fauna, wildlife)
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Technical Advisor – Ecology	Education B.S., 1976, Wildlife Biology

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
22	22	USACE Construction Quality Mgmt for Contractors (1999); See executive summary for more registrations and certifications

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1998	Present
2.	Independent Consultant	1997	1998
3.	Versar, Inc.	1987	1997
4.	Emergency Response, Inc.	1984	1987
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Executive Summary of Career Highlights

Mr. Ledford is a Program Manager with extensive experience and knowledge gained through management of fixed-price and cost-plus projects for the US Army Corps of Engineers (USACE) and the US Navy. Mr. Ledford provides overall management for contract cost, schedule, subcontracts and technical quality. He serves as the single point of contact for coordination of program issues with clients. His project experience includes serving as the Program Manager for four federal Indefinite Quantity Indefinite Delivery contracts for the USACE with an aggregate contract capacity of $40 million; managed overall budget, quality, and schedule for 45 task orders that included construction, maintenance, repair and renovation, and environmental construction spanning four states; managed asbestos surveys for over 3 million square feet of commercial space and over 21 million square feet of DOD space; and led an emergency response team to clean up hazardous materials from occupied multi-story buildings after the 1989 Loma Prieta earthquake. As Project Manager, Mr. Ledford has been directly responsible for Phase I and II environmental site assessments and has lead project teams of professional engineers, environmental scientists and industrial hygienists. He has conducted material assessment surveys and developed remedial alternatives and abatement specifications. Mr. Ledford's registrations and certifications aside from those referenced above include AHERA Asbestos Contractors and Supervisors (1988), AHERA Asbestos Abatement Project Designers (1991), and 40-Hour Hazardous Waste Site Operations. His specific project experience is as follows.

US Navy-EFA-West, Division Director. Managed a staff of engineers and geologists for 60 Cost Plus Fixed Fee task orders throughout the EFA-West boundaries. Negotiated contract terms and approved cost proposals. Managed professionals conducting RI/FS, EE/CAs, risk assessments, UST investigations and environmental assessments.

Kerr McGee Refinery, Site Superintendent. Conducted a project for solidification of nine surface impoundments. Managed daily site operations and subcontractors. Included solidification, excavation, and transportation and disposal of 18,000 cubic yards of waste.

Point Vicente Interpretative Center Remediation, Rancho Palos Verdes, California, Program Manager. The area was the site of a small arms firing range requiring remediation soil contaminated by lead. The project required the characterization of the site to determine vertical and lateral extent of contamination and excavation and disposal of approximately 20,000 cubic yards of soil.

Brief Resume Continued

Sacramento Army Depot, South Post Groundwater Treatment Plant O&M, Program Manager. Performed O&M of the South Post Treatment Plant, which operates 24 hours per day treating contaminated water. The work requires the monitoring, preventative maintenance, O&M, and repairs to the entire system including the treatment plant, pipelines and extraction wells.

Landfill Rehabilitation, Camp Roberts, California, Program Manager. The landfill required rehabilitation due to extensive damage by ground squirrels. The site was cleared of brush and disked, the soil was conditioned and compacted, and the site was hydroseeded. Also recommended and installed four barn owl nesting boxes in an attempt to establish a breeding colony to control the ground squirrel population.

National Wildlife Refuge, Blythe, California, Assistant Refuge Manager. Performed various inventories of flora and fauna, public use management, law enforcement, developed environmental assessments, and managed 2,000 acres of cooperative farm land.

Bureau of Land Management, Burley, Idaho, Range Technician. Performed field data collection for support to a District-wide Environmental Impact Statement.

Fort Hunter Liggett Landfill Closure, Jolon, California, Program Manager. Work required closure of an existing landfill on an active US Army Base. The project required the excavation, screening and placement of over 140,000 cubic yards of soil, installation of 26 acres of HDPE liner, installation of six vent pipes, construction of over 5,600 linear feet of access roads, and asphalt road repairs.

USACE, Sacramento District, PRAC Contract—Program Manager. Responsible for overall management of $25 million remediation contract within the South Pacific Division. Manages cost, schedule, contract negotiations, subcontractors, Program Health and Safety, and Quality Control. Task Orders include annual groundwater monitoring and completion of an RI investigation at Los Alamitos Armed Forces Reserve Center.

USACE, Presidio of San Francisco—Program Manager. Responsible for 10 task orders totaling over $7.3 million. Responsible for contract management including cost and scheduling, contract negotiation, subcontractors, program Health and Safety and Quality Control. Tasks included a facility-wide asbestos-containing material (ACM) and Lead Based paint (LBP) survey of 835 buildings. Developed alternative confirmatory lead bulk sampling strategy that reduced the number of samples by 20,000. Determined lead in soil and developed remedial approaches. Completed investigation and design for decontamination of LBP, ACM, residual chemicals, radiological and biological contamination. Title II construction and remediation oversight.

USACE, Sharpe Army Depot & Tracy Army Depot—Program Manager. Under two task orders, surveyed 245 buildings for ACM. Awarded Sharpe contract based on success of prime contract at Tracy.

Nationwide Financial and Real Estate Firms—Program Manager. Responsible for multiple remedial action projects spread over the western states. Contracts were 75 percent Time and Materials (T&M) and 25 percent Fixed Price. Oversaw up to 30 concurrent projects including remediation and construction, groundwater treatment, UST removals, decontamination and demolition, investigation, design, asbestos and lead abatement.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Frank Van Alstine	Project Scientist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PIV	Area of Expertise Remedial investigations; work plan development; data evaluation
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Environmental Scientist	Education B.S., Industrial Technology (1993)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
13	13	Registered Environmental Manager (2001); Hazardous Materials and Waste Management (1993); see executive summary for more information

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2003	Present
2.	Weston Solutions, Inc.	1999	2003
3.	AMEC (formerly AGRA Earth & Environmental)	1998	1999
4.	GZA Environmental	1996	1998
5.	Earth Technology	1993	1996
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Executive Summary of Career Highlights

Mr. Van Alstine provides more than 13 years of experience in the field of environmental science. His range of experience includes installation of monitoring wells, soil borings, sampling and analysis, site characterizations, UST removals, excavations, SVE installation and O&M projects. He has also performed quarterly sampling and report preparation. Mr. Van Alstine is currently a Project Manager of which the responsibilities include preparation of PA/SI and RI/FS Reports. Mr. Van Alstine's day to day responsibilities consist of staff management, interaction with subcontractors, and analytical laboratories, ensuring that project schedules and budgets are maintained. His registrations and certifications aside from what is referenced above include 40-hour Hazardous Waste Site Worker Training (1993), 8-hour Hazardous Waste Site Supervisor Training (2001), 8-hour OSHA Health and Safety Refresher Training (current), Site Health and Safety Coordinator Course (2001), and Arizona Accredited AHERA Asbestos Building Inspector (1999). Mr. Van Alstine's specific project experience is as follows.

Hughes Missile Systems, Air Force Plant 44, Tucson, Arizona, Field Technician. Performed field operations including Level B excavation and sampling; well development and sampling of installed wells; O&M of SVE resin adsorption unit installed during design; design, piping layout and sizing, and connecting nine compound resin adsorption treatment systems to 110 vapor treatment wells; management and manipulation of analytical results database presented to the AFCEE; and assistance in the preparation and compilation of various reports and work plans.

Installation Restoration Program, Davis-Monthan Air Force Base (DMAFB), Tucson, Arizona, Field Manager. Performed numerous tasks at DMAFB under the Installation Restoration Program (IRP) for the United States Army Corps of Engineers (USACE). Site activities have included a full-scale site characterization at the J3 Fuel Pumphouse (including solvent storage) and at the former Army and Air Force Exchange Service (AAFES) gas station with a soil boring investigation, installation of groundwater monitoring wells, soil vapor monitoring and extraction wells. Performs quarterly operation and maintenance and of SVE systems at Landfill LF-01, Site-35 and the former AAFES gas station. Also performs quarterly groundwater monitoring of the monitor well network. Responsible for preparing work plans, sampling plans, technical memorandums and characterization reports.

Brief Resume Continued

PA/SI Titan II Missile Site 12, DMAFB, Tucson, Arizona, Project Manager. Conducted a PA/SI of the former Titan II Missile Site 12 in Avra Valley, Arizona. Activities included historical research of as-built drawings, operational procedures, maintenance plans, and decommission procedures. Directed a soil boring investigation that included the collection of soil samples near the former site USTs, sump main drain, fuel dump stations, and hard standards. Obtained closure of the site from the ADEQ.

Hills Brothers WQARF RI/FS, Phoenix, Arizona, Project Manager. Managed site investigation in the WQARF Area. Included installation of monitoring wells, soil borings, and soil-gas samples. Managed staff and subcontractors. Ensured project stayed on schedule and within budget.

Vulture Mill Remediation Design, Wickenburg, Arizona, Field Manager. Supervised driller and mobile laboratory during a site characterization project. Collected approximately 1,500 shallow soil samples for analysis of lead and arsenic.

Site Characterization, Baldwin Metals, Arlington, Arizona, Project Manager. Managed characterization of a former metals processing facility. Contaminants of concern were arsenic, gallium, and lead. Introduced new technology, an X-ray fluorescence (XRF) detector, to field screen approximately 350 soil samples over a 4-acre rectilinear gridded area.

Phoenix Sky Harbor International Airport UST Removal, City of Phoenix Aviation Department, Phoenix, Arizona, Field Supervisor. Supervised subcontractors in removal of USTs. Conducted extensive database searches and field investigations for domestic wells located within the Miracle Mile WQARF area.

Miracle Mile State Superfund Project, ADEQ, Tucson, Arizona, Field Technician. Performed quarterly sampling and report preparation of monitor wells located in the Miracle Mile WQARF area. Also conducted extensive database searches and field investigations for domestic wells located within the Miracle Mile WQARF area.

Miracle Mile State Superfund Project, ADEQ, Tucson, Arizona, Field Supervisor. Supervised the excavation of gasoline and waste oil USTs, fuel islands, pumps, and piping at a former gas station. Responsibilities included coordination with the Fire Marshall and confirmation sampling of former leaking USTs. Aided in scheduling of driller, lab, permits, SAF reimbursement, characterization reports, and disposal of petroleum-contaminated soils.

West Central Phoenix State Superfund Project, ADEQ, Phoenix, Arizona, Field Supervisor. Performed soil boring well installations and groundwater quality sampling for the West Central Phoenix WQARF Project Area. Represented the state during oversight of a large-scale subsurface investigation for potentially responsible parties (PRPs). Activities included ADEQ liaison, split sampling, and extensive oversight of documentation and photo cataloging during investigation and monitor well installation. Conducted aerial photo review and record searches of PRPs at a number of municipalities including the City of Phoenix, ADEQ, and the public library. Created graphics for ADEQ public presentation.

Installation of Carbon Soil Vapor Treatment System, Confidential Client, Mesa, Arizona, Field Supervisor. Oversaw construction and installation of a carbon soil vapor treatment system at a former metal fabrication facility. Responsible for procurement, permitting, startup, and O&M.

Soil Contamination Investigation, Edwards Air Force Base, Lancaster, California, Field Technician. Operated as a drill second during a large-scale investigation of the extent of petroleum soil contamination along the main pipeline. Activities included field coordination with base operations, drill crew, soil sampling, data logging, sample shipment, and well development. Helped prepare work plan, sample plan, cost analysis, procurement, and feasibility study report, and created design and cost analysis treatment options.

Soil Excavation, Test Track Facility, Confidential Client, Mesa, Arizona, Field Supervisor. Responsible for subcontractor oversight during soil excavation of petroleum-contaminated soils and creation of bioremediation ponds at the test track facility of a major auto manufacturer. Conducted confirmation sampling and O&M of bioremediation ponds including introduction of microbes to contaminated soil. Conducted soil gas sampling of a site location for landfill closure.

Contaminated Soils Excavation, Quality Bumper, Mesa, Arizona, Field Supervisor. Supervised the bucket auger rig during excavation of petroleum-contaminated soils. Activities included confirmation sampling, soil logging, and coordination with client's consultant during construction of bioremediation pond.

Light Rail Transit Right-of-Way Phase I Environmental Site Assessments (ESAs), City of Phoenix, Phoenix, Arizona, Project Manager. Successfully managing multiple Light Rail Transit Right-of-Way Phase I ESAs for the City of Phoenix. Activities include project opening, cost tracking, scheduling, and report review.

SECTION 14: RESUMES
PROFESSIONAL LEVEL V

Responsibilities: Senior technical leader for environmental projects, QA of Project Plans, report review.
Qualifications: 8 or more years of experience.
Education: Advanced degree in field OR registration (P.E. or R.G.).

Proposed ITSI Team Members:
Arvind Acharya, R.G., CHG
Roberta A. Bowen, R.G.
Larry Chase
Rachel B. Hess
Richard Horne
Peter Lange, R.G., CHG, CEM
Kenneth Leonard, R.G.
Robert Lindfors, P.E.
Nancy A. Nesky, E.I.T.
Lawrence P. Onyskow, P.E.
Richard E. Purdue, P.E.
W. Charles Shafer, P.E.
Tej P. Singh
David Wineman, R.G.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Arvind Acharya, R.G., CHG	Program Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise Preliminary assessments; RI/FS; QA/QC; contaminant transport modeling; bioremediation
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Geologist	Education M.S., Geology, Concentration in Hydrogeology, Geophysics (1987); M.S., Geology (1983); B.S., Geology (1981)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
18	18	Certified Hydrogeologist, 1996 (CA); R.G., 1994 (CA); R.G., 1992 (AR); 40-hour OSHA HAZWOPER Training; 8-hour OSHA Supervisor Training

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2001	Present
2.	DNL Company, Inc.	2000	2001
3.	Allied Technology Group, Inc.	1996	1999
4.	On-Site Technologies, Inc.	1995	1996
5.	Roy F. Weston, Inc.	1987	1995
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Executive Summary of Career Highlights

Mr. Acharya has extensive experience in environmental restoration and removal action projects, hydrogeologic site assessments, remedial design, bioremediation, RI/FS, and QA/QC. His experience includes managing and overseeing large task order contracts involving multiple concurrent projects at multiple locations. His design experience includes implementation of groundwater 2-D and 3-D numerical and analytical contaminant transport models as tools to predict the rate and costs for cleanup. Mr. Acharya has been responsible for numerous projects implementing innovative techniques to achieve clean status for contaminated sites. He also has extensive regulatory experience including CERCLA, RCRA, TSCA, SWDA, CWA and CAA for multiple nationwide DoD and industrial sites. His strengths include all phases of RI and RA implementation including soil and groundwater treatment technologies, modeling and site cleanup strategies.

USACE, TERC, Louisville District, Crab Orchard Wildlife Refuge Environmental Restoration, Marion, Illinois, Program Manager. Implemented remedial action for removal of TNT contaminated soil at a former UXO manufacturing plant (currently a wildlife refuge) in Marion, Illinois. Served as Manager for design, planning, and implementation of earthwork activities, including onsite physical screening and segregation of TNT contaminated soil. Implemented a total safety program including health and safety monitoring, sampling for lead in air particulates, and coordinating disposal of segregated material to an approved disposal facility.

Intrinsic Bioremediation Assessment, Alameda Point, Alameda, California, Project Manger. Involved closure and retrofit of several aboveground and underground tanks on naval bases in the San Francisco Bay Area. Projects included earthwork, site preparation, tank and piping systems removal, demolition, decommissioning, retrofitting, and reinstallation at Treasure Island, Alameda Naval Station, Point Molate, and Oakland Naval Supply Center.

PA/SI, Travis Air Force Base, California, Senior Geologist. Performed a comprehensive basewide PA/SI to be compliant with CERCLA regulations and to identify areas requiring further investigation under a Phase II program. PA/SI scope of services included vehicle maintenance shops, industrial and support facilities, drum storage areas, hazardous materials accumulation areas, landfills, hangars and flight line maintenance areas, and fueling stations. Generated a basewide PA/SI conforming to ASTM standards and prepared a detailed 'laundry list' of locations and sites requiring additional investigation along with recommendations for facility compliance.

Brief Resume Continued

RI/FS, Travis Air Force Base, California, Senior Hydrogeologist/Project Manager. Coordinated basewide hydrogeological assessments to complete the requirements of the RI/FS at Travis AFB. Work involved installation of numerous monitoring wells, extraction wells, and piezometers, soil and groundwater sampling as well as performance of multiple aquifer tests (specifically at base landfills and fire training areas) to determine the extent of groundwater contamination. Additional tasks included generating cost options for groundwater and soil remediation and developing conceptual models to simulate groundwater cleanup on an accelerated basis. Incorporated all data in a comprehensive site-specific geographic information system (GIS) to enable visualization of proposed cleanup activities. Developed 2-D and 3-D analytical and numerical predictive groundwater models to determine the rate of cleanup utilizing conventional and innovative technologies.

Oakland Military Institute, Oakland Army Base Property, Oakland, California, Project Manager. Evaluated the feasibility of use of existing facilities within the former Oakland Army Base as a charter school. Performed a Phase I environmental assessment of the facility in accordance with ASTM Standard E-1528 "Standard Practice for Environmental Site Assessments: Transaction Screen Process" along with a mold remediation study for the facility. Consolidated data from these assessments to support a Preliminary Endangerment Assessment (PEA) for the proposed charter school site.

Catellus Development, California, Phase I/II Environmental Assessments, Senior Geologist. Implemented Phase I and II environmental site assessments for over 50 Catellus properties in the San Francisco Bay Area ranging from office complexes to commercial properties to comply with environmental transaction requirements for property transfer. Upon completion of Phase I assessments, provided recommendations for follow-up investigations and soil/groundwater sampling. Developed a transaction checklist to meet client requirements for loan approvals for potential tenant improvements.

U.S. EPA Region IX and X Arcs Contract for Hunters Point, California; Lead Geologist. Coordinated and reviewed multiple RI/FS documents for several sites including the implementation of sheet piles. Reviewed base closure plans, feasibility studies, and risk assessment studies for the U.S. EPA for several superfund sites.

Hydrogeological Assessment, Walnut Creek, California, Senior Hydrogeologist. Performed soil and groundwater site characterization, RI/FS and groundwater and contaminant transport modeling. Implemented multiple Phase I and II site investigations for property transfers and performed hydrogeological assessments involving multiple aquifer (step and pump) tests to determine treatment system design. Negotiated cleanup strategies with multiple regulatory agencies including Cal EPA, DTSC, and RWQCB.

Various Commercial Projects, Project Manager. Mr. Acharya served as project manager for several commercial and industrial clients providing remediation services involving building and designing mobile treatment systems using soil vapor, bioventing, air sparging, bioremediation and groundwater extraction. He has been responsible for several projects utilizing innovative technologies (e.g. UV/hydrogen peroxide, fixed film bioreactor, olephilic filter, and UV/Ozone) aimed at achieving clean status for multiple sites. His responsibilities were in planning, design and implementation of hydrocarbon and organic contamination cleanup using off-the-shelf technologies. Soil vapor extraction and treatment by thermal and catalytic oxidation of contaminated vapor resulted in 98% destruction efficiencies. System design options included using afterburners to reuse fuel for continuous operation of the oxidizer. Enhancements included telemetry and continuous data access to monitor system performance. Generated closure reports and design and progress reviews for multiple soil and groundwater treatment systems which were managed and maintained by in-house staff and personnel. He also generated corrective action plans, remedial design plans, and interim design plans for ongoing and completion requirements.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Roberta A. Bowen, R.G.	Senior Hydrogeologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
PV	Groundwater modeling
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)*	Education
Project Hydrologist	M.S., Hydrology (1989); B.S., Geology (1977)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
25	25	R.G., AZ (2001); Registered Environmental Manager (1999); 40-hour OSHA HAZWOPER Training (1989) and refresher courses (current)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2005	Present
2.	hydroLOGIC Consultants, Inc.	2003	Present
3.	Weston Solutions, Inc.	1989	2003
4.	SEA, Inc.	1985	1989
5.	Skibitzke and Associates	1980	1985
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Executive Summary of Career Highlights

Ms. Bowen has more than 25 years of experience as a hydrogeologist and project manager for hydrology and water resource projects. Her groundwater experience includes resource characterization, resource evaluation, recharge assessment modeling, conceptual model and water budget development, well installation and aquifer test analysis, water supply analysis, recharge assessment modeling, water quality movement and impact analyses, mine and building dewatering design, saltwater intrusion, 100-year water adequacy studies in porous and fractured media, flow and contaminant transport modeling, and feasibility analysis. Environmental work includes work plan and project preparation, site characterization, sampling program design and implementation, remedial investigations and feasibility studies, and design and implementation of remedial actions.

Ms. Bowen has developed more than 50 numerical models of groundwater and surface water systems, including development of three-dimensional groundwater flow and transport models. She has provided expert witness testimony and presented technical findings to the public as well as regulators. Ms. Bowen also has provided peer review of documents generated by subcontractors and other consultants. She has been trained in several different areas of groundwater modeling techniques and assessment formats, including Sandia RAM-W Training for Water Vulnerability Assessments (2002), Modeling of Natural Attenuation and Bioremediation Systems (1998), Applied Model Calibration: Construction, Calibration and Stochastic Simulations (1998), ASTM Seminar on Geostatistics (1994, 1995), Data Quality Objectives Framework Seminar (1995), Practical Optimization Modeling of Groundwater Management (1992), Stochastic and Geostatistical Analysis in Groundwater Modeling (1985). Ms. Bowen's specific project experience is as follows.

Hydrologic Study and Groundwater Model Development. Modification of Assured Water Supply Designation, Interested Parties, Eloy, Arizona. Ms. Bowen developed a three-dimensional, transient groundwater flow model for a 600-square mile area encompassing the Eloy city limits. The model, funded by a consortium of 18 developers, was created to provide the city with the water resource information needed to modify their designation as a water provider. Tasks included development of a conceptual model and water budget, selection of calibration targets, aquifer test analysis, generation of future demands, and modification of the calibrated model input data to evaluate the 100-year supply. The model will be used to locate new wells to meet the growing demand and assist in locating areas for recharge. It was completed in less than 6 months. The model is currently under review by the Arizona Department of Water Resources.

Brief Resume Continued

El Rio Watercourse Master Plan, Maricopa County Flood Control District, Phoenix, Arizona. The Flood Control District intends to develop 17 miles of the Gila River floodplain with a mixture of parks, lakes, recharge facilities and other recreational amenities. Ms. Bowen is assisting the District with the groundwater development portion of this project. Tasks included determination of the existing conditions throughout the area; and, an evaluation of the impacts of future pumping from adjacent municipalities and irrigation districts on planned amenities. Water use will be supplemented with imported water and reuse of effluent. Aquifer recharge zones that not only add to the water in storage within the aquifer; but, assist with maintaining water levels to support critical vegetative communities were identified. Extensive public participation is planned. The final product will be a regeneration of the river ecosystem coupled with numerous public facilities designed to enhance the "river" experience. The second phase of the project, development of a transient, three-dimensional groundwater flow model to simulate groundwater-surface water interaction as redevelopment proceeds along the Gila River, was awarded in 2005 and is currently underway.

Apache Junction Water Resource Evaluation, Apache Junction, Arizona. The Town of Apache Junction has been informed by the ADWR that it has an inadequate supply of water. Apache Junction prepared a comprehensive plan as part of the Growing Smarter Program. Ms. Bowen assisted in the preparation of the water resource portion of the master plan. Tasks in this project included a review of existing hydrologic conditions, current and available water supplies and an analysis of potential future sources of groundwater to meet the Town needs.

Rancho Sahuarita, Pima County, Arizona. A Demonstration of an Assured Water Supply was required for a 3,000 acre subdivision in Sahuarita, Arizona because it is located within the Tucson Active Management Area. Ms. Bowen assembled data on historical and projected water uses, water level data, and hydrogeologic conditions beneath the site, and regional impacts from the City of Tucson and mine water supply wells. These data were used to develop a groundwater budget and a transient, three-dimensional groundwater flow model that demonstrated that a 100-year assured water supply for the proposed subdivision is available. The model was developed using MODFLOW and was reviewed and approved by the ADWR.

Central Phoenix Plume Model, Arizona Department of Environmental Quality (ADEQ), Phoenix, Arizona, Project Manager/Technical Lead. Ms. Bowen was the Project Manager and Lead Hydrogeologist for the development of a three-dimensional groundwater flow model for a 180 square mile area of Central Phoenix. The area encompasses the West Van Buren and the former East Washington and Sky Harbor WQARF project areas. The model is five-layers and simulates seasonal pumping. The model input and output are achieved using Groundwater Vistas, and groundwater flow is simulated using the USGS MODFLOW program. Work involved with this project included the assemblage of data from regulatory agencies and private facilities, development of a water budget and site conceptual model, and creation of a steady-state model. Ms. Bowen provided ADEQ with recommendations for additional data collection activities fill data gaps identified during the model development. Other models created in the area have been reviewed and evaluated. Calibration of the transient model, model validation and future simulations were all conducted under this project. Progress on the modeling was presented at regular intervals at Technical Exchange meetings that were open to the public. Attendees include technical representatives from facilities and agencies in the model area. The model was reviewed and approved by a contractor for the U. S. Environmental Protection Agency.

Southwest Corner Source Area Early Response Action (ERA), ADEQ, Phoenix, Arizona, Senior Hydrologist. Ms. Bowen was the Senior Hydrogeologist for the Early Response Action at a site in Central Phoenix with groundwater contaminated with PCE, MTBE and BTEX. The ERA was required because an adjacent property has installed 10 dewatering wells to lower groundwater levels below an underground parking garage. The hydrologic evaluation is critical to prevent movement of contamination beneath the SCSA site toward the dewatering system. Ms. Bowen was involved with the design and installation of four boreholes to characterize the hydrogeologic system and the contaminant distribution, prepared a conceptual model and three-dimensional groundwater flow model using MODFLOW, and assisted with the design of the ERA, which will consist of pumping wells and an aboveground treatment system.

RIs, Arizona and New Mexico, DOE, Senior Hydrologist. Provided senior technical review of proposed work plans for an observational approach to performing remedial investigations at seven uranium mill tailings sites in the southwestern United States. Site plans included data quality objectives and site characterization field program, including hydrogeological characterization of the sites and groundwater modeling.

RIs, U.S. Bureau of Land Management (BLM), New Mexico, Senior Hydrologist and Project Manager. Provided senior technical review and oversight of RI report for remediation of an unregulated landfill on BLM land in a semiarid location. Responsible for client interface and discussions with regulators regarding conclusions of contaminants of concern and source of contamination. Report included summary of data quality objectives (DQO), site characterization field program (SAP), groundwater modeling, and baseline risk assessment (RA).

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Larry Chase	Senior Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise Construction management; project management; emergency response
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Construction Manager	Education B.S., 1985, Business Management A.A., 1980, Liberal Arts

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
21	21	40-hour OSHA Training for Hazardous Waste Site (1988); 8-hour OSHA Refresher (current); see experience summary for more

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2001	Present
2.	MP Environmental Services, Inc.	2000	2001
3.	Ecology Control Industries, Inc.	1997	1999
4.	IT Corporation	1989	1997
5.	OHM Corp.	1985	1989
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Executive Summary of Career Highlights

Mr. Chase has extensive experience in environmental remediation services. He has managed a variety of environmental projects and facilities, and has demonstrated skill in regulatory compliance, project coordination, construction equipment operation, field operations, transportation of hazardous waste, technical services, hazardous waste management services, project management, cost estimating, project development and cost control. Mr. Chase has worked both with government agencies and commercial clients. He has supervised emergency response, UST removals, bioremediation projects, excavations, and industrial cleaning projects. Mr. Chase's registrations and certifications aside from those listed above include 16-hour Additional Training for Managers of Hazardous Waste Sites (2000), Environmental Emergency Response Training (1993), and 16-hour Government Compliance Assistance Program (GCA-O) (1994). Mr. Chase's specific project experience includes the following.

Luke Air Force Base, Repair by Replacement of High Intensity Air Field Approach Lighting, Arizona, Senior Project Manager. Performed as Senior Project Manager for the installation of high intensity airfield approach lighting at Luke Air Force Base. This contract is for 14 months with a contract value of $3,500,000. Responsible for the overall management of field staff, the contract, billing, vendor and subcontractor agreements and payments, contract modifications, negotiations with the contracting officer and communications with the Engineering department and air field management. The project includes directional boring under active taxiways and runways in addition to a public street. The airfield remains active for F-16 Fighter air traffic as well as other missions of Luke Air Force Base during all installation operations. Responsible to ensure the project is highly coordinated and communicated not to interfere with flight operations.

Remodel of Immigrations and Customs Enforcement Processing Center, Florence, Arizona, Project Manager. Under contract to the US Army Corps of Engineers to complete over $3,000,000 in facility renovations including mechanical unit replacement, asphalt sealing and paving, removal and replacement of roofing, removal and replacement of ceramic tile, concrete removals and repairs, repair and replacement of security gates, telephone and data cabling in the new administration building, and design and development of a new security and camera program for the entire facility. The facility is secured and

Brief Resume Continued

is used for the processing of illegal aliens. All work needs to be coordinated with facility security and is performed under guard escort. All personnel and equipment had to be tracked to ensure that no equipment was unaccounted for that could be used as a weapon by a detainee.

Operations and Maintenance of the Industrial Waste Water Pre-Treatment Facility at Davis-Monthan Air Force Base in Tucson, Arizona, Project Manager. Directed the maintenance and operation of an industrial waste water pre-treatment facility (IWWPTP) at Davis-Monthan Air Force Base (DMAFB) for the past four years. Negotiated an extension of the contract for at least two more government fiscal years starting October 1, 2005. The team is responsible for the proper treatment of DMAFB storm water, oil water separators, airplane wash water, and water contaminated with oil and other substances prior to the discharge into the local public storm drain. Storm water must be treated prior to discharge in compliance with the DMAFB's permits due to the fact many of the aircraft have cadmium in the paint and rinse. The team is responsible for the compliance and management of all permits with Pima County. The team samples and field screens all water prior to discharge to the public utility. The team travels to DMAFB to pump oily water from blocked oil water separators for treatment at the IWWPTP.

Luke AFB Jet Fuel Spill, Project Manager. Responded within 12 hours to evaluate a jet fuel spill that occurred when a 2,500-gallon above ground jet fuel tank was overfilled. The product overflowed into the gravel lined containment area. A timely response was required as the tank was utilized to fuel fighter planes at the base. Developed a rough scope of work with the base and a plan of action. Within 48 hours of the initial site visit a scope of work and a cost budget was submitted for negotiation. In less than two hours following submittal of the cost budget, mobilization began. Equipment arrived at the base within 30 hours following completion of the negotiations. Approximately 35 tons of contaminated gravel was vacuumed from the containment directly into interceptor/vacuum bins. The waste was profiled, transported and disposed of in accordance with all regulations and requirements. The project took less than 18 calendar days to complete from initial notification through off-site disposal of the contaminated materials.

Luke AFB Jet Fuel Spill, Luke AFB, Arizona, Project Manager. Project Manager for a time critical removal of a jet fuel spill on sacred Indian lands. Normal methods of hydraulic excavation and backfilling would not be acceptable. Due to the volatile nature of the jet fuel and the extreme desert heat, timely mobilization for the removal process was critical. The crew hand excavated 28 cubic yards of contaminated soils, placing the soils in one cubic yard nylon sacks. Utilizing a GPS, each excavation was logged as to longitude, latitude and depth. Samples were taken from each excavation to verify the removal of the contamination to below residential cleanup levels. Field screening with an organic vapor analyzer was completed through out the project. Helicopters from a nearby reserve base airlifted the bags of contaminated soil to a staging area in a non-sensitive area. Contaminated bags of soil were placed directly into forty-yard open-top roll off bins for transport offsite for proper disposal.

SCE/SCG, Project Manager. Project Manager for closure and remediation of a town gas site. Project included permitting, demolition of structures, shoring, excavation of PAH contaminated rails, transportation, off site disposal, re-constructs, backfill, compaction, landscaping and parking lot construction.

Union Pacific Railroad and Burlington Northern Railroad, Project Manager. Supervised over 75 emergency response incidents including several involving the railroads. One response involved the off-loading and clean up of hydrofluoric acid, while others included the high pressure transfer of anhydrous ammonia in sub-zero temperatures, and the transfer of liquid butane in extreme heat conditions.

McColl Superfund Site, Project Manager. Trial excavation project removing refinery waste containing high levels of hydrocarbons, sulfur, nitrogen, and benzene. Emissions exceeded IDLH during the project and the work was performed in level A PPE.

California EPA/DTSC, Program Director. On-going effort being conducted for the California EPA/Department of Toxic Substance Control Region IV – Long Beach. Responsibilities included directing various state-funded clean ups pertaining to chemical packaging, site assessment, drilling, sampling, excavation, soil remediation, and asbestos abatement.

Alark Hard Chrome, Project Manager. Removal of contaminated soil from beneath an existing warehouse and the subsequent Phase II site assessment for a plating shop located in Riverside, California.

Westminster Tract 2633, Project Manager. Remediation of a Superfund Site located in Westminster, California. The project effort involved borings in support of a phase II site assessment; installation, purging, and sampling of ground water monitoring wells; removal of contaminated material from residential properties; submission of remedial investigation/feasibility study; and submittal of a draft RAP.

Confidential Client, Project Manager. Bioremediation project in the Port of Los Angeles area involving the remediation of over 50,000 cubic yards of hydrocarbon contaminated soil.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Rachel B. Hess	Project Manager Phase I/II ESAs and RI/FSs
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise SVE design, installation and operation; CERCLA; RCRA; RI/FSs
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Manager; Project Geologist	Education M.S., Environmental Management (1992); B.A., Geology (1985)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
18	18	USACE CQC Mgmt Training; 40-hour Hazardous Waste Site Operations Training; 8-hour Hazardous Waste Site Supervisor Training

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1998	Present
2.	Port of Oakland	1997	1998
3.	Jacobs Engineering Group	1993	1997
4.	OHM Remediation Services Corporation	1991	1993
5.	Engeo, Inc.	1989	1991
6.	Exceltech, Inc.	1988	1988
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Executive Summary of Career Highlights

Ms. Hess provides specialized experience managing environmental investigation, characterization, and remediation projects. Her experience includes characterization of site contamination and remedial design for hazardous waste and industrial process sites at federal facilities in both California and Utah and serving as project manager and contributing author for major RI/FSs. She has conducted Phase I and II Environmental Site Assessments (ESAs). Phase I ESAs involved the thorough review of regulatory agency records, interviews with regulatory agency personnel, review of historical aerial photographs, interviews with current and former property owners, and site walkovers. Phase II ESAs involved soil sampling, groundwater sampling, selection of analytical laboratories, and review of results with recommendations for additional actions. Specifically, Ms. Hess prepared a Hazardous Waste Generator Report for a former transformer repair facility in Southern California. The work included a through review of federal and state regulations governing such activities as well as reviewing the completeness of disposal manifest documents. She also has prepared a closure plan for a former RCRA hazardous waste storage area. Ms. Hess has also acted as a Technical Team Leader involved in designing and implementing sampling plans for a major Emergency Response following an industrial fire in Martinez, California. She also prepared soil, water and sediment sampling activity reports for Southern Pacific train derailment at Cantara Loop near Dunsmuir, California.

Sierra Army Depot, Project Manager. Managed design, construction, and operation of SVE/BV system to evaluate effectiveness at treating chlorinated solvents in the vadose zone. Negotiated regulatory acceptance of plume characterization prior to system installation and operation. Performed as Project Manager for the design, build, and operation of the full-scale SVE/BV system at the Defense Reutilization and Marketing Organization (DRMO) Trench Area. The SVE/BV system was designed to remediate VOCs, SVOCs, and TPHs in the soil. Project included completion of system design, installation, operation, and, after completion of remediation, decommission of the system.

Titan 1-A Missile Facility, Project Manager. Managed installation of a groundwater treatment system to test treatment methodologies on TCE in groundwater. Project involved installation of two groundwater infiltration galleries each 27 feet deep by 3 feet wide and up to 200 feet in length, installation of associated gallery piping and conveyance piping to treatment pad, and construction of treatment pad and system. Primary roles included design review, implementation development, and construction management.

Brief Resume Continued

Presidio of San Francisco, Task Manager. Managed two separate projects. The first involved managing the research and assessment of 127 miscellaneous sites not covered by the main installation investigation. Categorized sites, determining that additional work was required for 35 sites, including former motor pools, metal shops, carpentry shops, chemical storage areas, a photo laboratory, a chemical dipping vat, and a printing plant. The second project involved management of a site investigation of a former motor pool area. Included soil and groundwater sampling and analysis, water quality studies, air monitoring, preparation of work plans, archeological surveys, permitting, and procurement of materials and subcontractors.

Santa Rosa Army Airfield and Oakland Army Base, California, Project Manager. Coordinated and prepared work plans and site investigation reports for Phase I and II site assessments, prepared and managed budgets and schedules, and supervised a multidisciplinary project team. Developed plans, including a HSP, DMP, and a Community Relations Plan. Work involved regulators early in the conceptual phase to ensure quick review of work plan. Used XRF for real time data evaluation, reducing number of samples, offsite analytical costs, and shortening the project schedule.

Hunters Point Naval Shipyard (HPS) Parcel B Quarterly Groundwater Monitoring, Project Manager. The project implemented the remedial action monitoring plan (RAMP) for 53 groundwater wells. Project included preparation of plans (i.e., Chemical Data Acquisition, HSP, Transport and Disposal, and DMPs) and quarterly monitoring reports, implementation of fieldwork, permitted disposal of wastewater.

HPS, Parcel C Zero-Valent Iron (ZVI) Injection Treatability Study (TS), Project Manager. The project implemented a large-scale TS to treat chlorinated solvents in groundwater within a 6,500 sq ft area. Additional plume characterization prior to treatment with all field activities and the TS report were completed within an accelerated 10-month schedule. Prepared Work Plan, SAP, HSP, TDP, DMP, and a TS report. Implemented fieldwork, evaluation of the data, and preparation of the data. The success and effective implementation of the fieldwork and the succinctly well-written TS report earned commendations from the Navy RPM and regulatory agencies.

RI/FS, Castle Air Force Base, California, Task Manager. Contributing technical author and project manager. Prepared and executed work plan, and prepared the preliminary draft and draft final RI/FS reports for 208 sites. Sites included motor pools, landfills, treatment plant, and aircraft maintenance areas. Contaminants included metals, solvents, pesticides and petroleum hydrocarbons. Included preparation and execution of the work plan, Data Management Plans, air monitoring, and preparation of additional field sampling plans.

Tooele Army Depot, Utah, Task Manager. Project Manager and contributing technical author, including revision of work plans, FSPs, and QA plans, as well as incorporation of client/agency comments into these documents. Also coordinated preparation of the preliminary, draft, and final draft reports.

Port of Oakland, As-Needed Environmental Consulting Services Contract, Project Manager. Projects range from regulatory compliance to site investigation/remediation to litigation support. Compliance projects involved support to the Port's Hazard Communication (Haz Com) Program. Activities included assisting the Port in conducting an inventory of chemicals used at Port maintenance facilities, coordinating the acquisition of MSDS for the inventoried chemicals, and the creation of a relational database to link the location of the chemicals with the MSDS. Responsibilities include having managed site investigation projects that ranged from records review/evaluations through characterization. Several of the projects were in support of cost recovery efforts that required the development of budgetary estimates for various potential cleanup scenarios.

Former Santa Rosa Army Airfield, Project Manager. Management of remedial closure project. Project includes preparation and finalization of a closure plan that summarized previous investigation, coordination and scheduling of field activities, and providing technical support to the client during technical meetings.

Desert Chemical Depot, Project Manager. Managed a fixed-price groundwater monitoring project at the Depot. Projects included preparation and finalization of work plans and reports, coordination and scheduling of field activities, and providing technical support during technical meeting and presentations at public meetings.

Parcel B Phase III SVE TS, Project Manager. Design, construction, and operation of an SVE system to further evaluate its effectiveness at treating chlorinated solvents in the vadose zone, including additional plume characterization prior to system installation and operation, preparation of plans and a TS report, implementation of fieldwork, and evaluation of the data. Primary roles included technical support and review and finalization of plans and reports, coordination of kickoff meetings and field activities. Responsibilities included overall project coordination and management, including cost and scheduling, weekly project reporting, invoicing, subcontractor oversight, and close interaction with the Navy RPM and onsite Navy representatives.

HPS Parcel B Shoreline Soil Sampling, Project Manager. Implemented preliminary characterization of the shoreline soils in Parcel B, including preparation of plans and coordination of transmittal of data with another contractor. Primary roles included technical support and review of preparation and finalization of plans and reports, coordination of kickoff meetings and field activities. Responsibilities include overall project coordination and management including cost and scheduling, weekly project reporting, invoicing, subcontractor oversight.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Richard Horne	Program Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise RI/FSs
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Manager; Technical Advisor	Education B.S., Chemistry (1984); Graduate Studies, Chemistry (1986)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
22	22	40-hour OSHA Hazardous Waste Operations; OSHA Supervisory Training; 8-hour OSHA Refresher Training (current)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2001	Present
2.	Tetra Tech	2000	2001
3.	Fluor Daniel	1991	2000
4.	Ecology & Environment	1986	1991
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Executive Summary of Career Highlights

Mr. Horne is experienced in project management under CERCLA, RCRA, OPA, OSHA, and CWA. He manages large remedial actions and construction projects for DOD, EPA and industrial clients, performing project assessments and engineering studies, and establishing and operating full-scale remedial systems. He coaches the project staff on maximizing the efficiency of project controls and company resources and takes immediate corrective action when needed. Through his collaborative leadership style and team building, Mr. Horne has earned the respect of clients, peers, direct reporters, subordinates, and subcontractors. He uses ITSI's in-place management and accounting systems and tools to track budgets, deliverables, quality, and schedules on a program-wide level. Mr. Horne conducts monthly project review with his Project Managers to oversee progress on active projects. Mr. Horne's specific project experience is as follows.

Camp Edwards, Massachusetts Military Reservation, Project Manager. Managed removal of UXO from the high use target area. Experienced in the development and application of emergency action plans for excavations and removal of UXO from high use target area.

RI/FS, U.S. Army, Letterkenny Army Depot, Pennsylvania, Project Manager. Under a cost reimbursable contract, conducted an $18.6 million, 76,000 man-hour RI/FS through decision documents at this NPL site. Managed budget and schedule support, data management and interpretation, and conducted technical peer reviews with the Pennsylvania Department of Environmental Resources, U.S. EPA Region 3, the U.S. Army, and the general public. Developed work plans, managed studies and reports, and authored the final project reports for seven operable units. Involved confined space entry, emergency removals, hydrological and soils studies, large dye-trace studies in karst geology, low temperature thermal treatment bench scale studies, and stream flow modeling. Performed time-critical EE/CAs for remediation of two operable units consisting of an abandoned leachate field, contaminated playground and streambed, achieving cost savings of $75,000 through detailed historical search. Managed ecological and human health risk assessment teams. Developed and implemented work process streamlining, resulting in a cost savings of $700,000 used for emergency lead-contaminated soil removal from a playground. Also performed emergency removal of PCB contaminated sediments from a recreation lake and emergency repairs on industrial waste water lines.

Brief Resume Continued

Gramlich Project, Fort Smith, Arkansas, Project Manager. Managed onsite lab during emergency PCB removal, provided quick turnaround on approximately 2,000 soil samples for Arochlor 1260 analysis for PCBs. By using an onsite lab, reduced the cost of analysis by approximately 80%. Provided field crews with same-hour and same-day results during delineation of contaminated soils marked for removal.

Impact Area of Massachusetts Military Reservation for the National Guard Bureau, Project Manager. Excavation and remediation of soils containing unexploded ordnance (UXO) from a High Use Target Area within Impact Area of Massachusetts Military Reservation for the National Guard Bureau. Work included hiring UXO qualified equipment operators, procuring earthmoving equipment, developing excavation and soil processing procedures and implementing safety programs to ensure the safe removal of UXO and related material from the excavated soils.

Army NPL Site in South Central Pennsylvania, Project Manager. Conducted a RI/FS through Record of Decision at an Army NPL site in south central Pennsylvania. Responsibilities included budgeting and scheduling; report generation; data management; conducting Technical Review meetings with State and Federal regulators, the Army, and the general public; and generating final reports for seven operable units. The scope of the project involved over 76,000 man hours (project value $18.6M) with confined space entry, construction, emergency removals, dye trace studies, farm animal sampling, low temperature thermal treatment bench scale studies and stream flow monitoring/modeling.

RCRA Facility Investigation, Federal Ammunition Processing Facility in Northeast Texas, Project Manager. Responsibilities included budgeting and scheduling of resources; performing Phase III groundwater and solid waste management unit characterizations; maintaining lines of communication with the client, regulatory community and the public; costing and scheduling; and final report generation.

Groundwater Treatment Plant Southern New Jersey, Change Manager (Project Controls). Construction of a groundwater treatment plant in southern New Jersey Responsibilities included overseeing the deviation process and managing change orders to negotiate for an additional $2.5M in project budget. Also provided coaching and oversight of project controls in tracking schedule and milestones with critical paths and assessing performance and cost issues.

Smith Company, Batesville, Texas, Laboratory Manager. Managed organo-phosphorus and organo-chlorine pesticide site. Provided same-day analytical results to removal team during the cleanup of the abandoned farm pesticide site.

Various Projects Throughout U.S. Environmental Protection Agency (EPA) Region VI, Project Manager and Chemist. Project Manager and Chemist for EPA Region VI Field Investigation Team. Supported EPA Technical Assistance Team with emergency removal actions managing onsite laboratories as regional coordinator for Field Analytical Support Program.

Air Force Center for Environmental Excellence Worldwide ENRAC, Deputy Program Manager. Directs Project Managers on this five-year, $750 cost reimbursable remedial construction contract. NWD and Region 2 installations include Homestead AFB in Florida, Kelly AFB in Texas, U.S. Air Force Academy in Colorado, FE Warren in Kentucky, and Seymour Johnson AFB in North Carolina. Oversees work plans, short- and long-term monitoring, and O&M of remediation systems, remedial construction, and habitat and wetlands resource preservation and restoration. Provides engineering support and design, implementation of decision documents, and site closeout activities. Responsible for future project programming. Provides compliance support for projects including hazardous waste management, wastewater, surface and groundwater management, habitat and wetlands resource preservation, and remedial construction. Implemented monthly project reviews of project status.

RCRA Facility Investigation, Loan Star Army Ammunitions Plant, Texas, Project Manager. Managed a $3.7 million cost reimbursable RCRA Facility Investigation on 16 solid waste management units (SWMUs) containing industrial and OE wastes and UXO residuals. Minimized and managed IDW with the use of vibra-sonic drilling, dramatically reducing drill cuttings. Performed monitoring well installation and sampling. Negotiated no further action with regulatory agency for multiple SWMUs, resulting in a $200,000 cost avoidance. Developed and coordinated remedial action plan (RAP) for Old Demolition Area. Used innovative computer modeling to describe contaminant fate and transport to regulators and the public. RAP was approved as record of decision. Provided compliance support, interfacing with U.S. EPA Region 6 and TNRCC.

Air Force Academy, Wastewater Treatment Plant (WWTP) Update, Project Manager. Managed construction at the WWTP anoxic basin to improve treatment efficiencies of the process, including improvements to the oxidation ditch recirculation intake system with the fabrication and installation of stilling wells and intake pipe extensions in the east and west oxidation ditches. Replaced the impellers of the existing internal recycle pumps in each oxidation ditch. The new impellers have a great pitch to improve their pumping efficiency.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Peter Lange, R.G., CHG, CEM	Senior Program Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise Field investigation; RI/FSs; remedial design; cost estimating
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Geologist; Project Geochemist	Education M.S., Economic Geology & Geochemistry (1988) B.A., Geology (1979)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
23	23	R.G., 1991 (CA); Certified Hydrogeologist, 1999 (CA); Certified Environmental Manager, 2001 (NV); see executive summary for more

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1997	Present
2.	Jacobs Engineering Group	1993	1997
3.	Alton Geoscience	1988	1991
4.	Terra Tech	1987	1988
5.	Battle Mtn. Gold Corp.	1987	1987
6.	Telegraph Gold Corp.	1984	1986
7.	Colorado State University	1982	1984
8.	Getty Mining Co	1981	1982
9.	Superior Minerals	1980	1980
10.	US Bureau of Mines	1979	1979

Executive Summary of Career Highlights

Mr. Lange has extensive specialized environmental experience, including environmental program management experience directing up to 30 technical professionals and 40 subcontractors performing environmental remediation, O&M, and construction projects. He has a solid knowledge of federal, state and local environmental regulations involving RCRA, CERCLA, TSCA, and OSHA. He brings together responsible parties, the regulatory community and other stakeholders to reach consensus on the most demanding site closure requirements at the lowest possible cost to the generator and the local community. Mr. Lange has successfully worked with overlapping jurisdictions of the federal and state EPA. He is familiar with relational database applications and geographical information systems as applied to complex RI data analysis, presentations and publication, conceptual remedial engineering designs, and O&M tracking of remediation systems. Mr. Lange's certifications and registrations aside from those listed above include 40-hour Hazardous Waste Site Operations Training (current) and 8-hour Hazardous Waste Site Supervisor Training (current). His specific project experience is as follows.

RI/FS, Castle Air Force Base, Project Manager. Served as Technical Lead/Advisor for planning and implementation of a US Air Force BRAC RI/FS project at a then-active military base. Duties consisted of field coordination, supervision of two drilling rigs and geologist crews, soil gas survey crews with mobile GC and geophysical survey crews. Developed comprehensive soil investigation and remediation program covering a wide range of sites and contaminants. The remediation program developed for this project included:

- A seven landfill closure program applying comprehensive site characterization, waste classification, volume consolidation, and optimized engineered cap designs to avoid extreme offsite transportation and disposal costs.
- A multi-site, multi-contaminant SVE cleanup program involving chlorinated VOC sites covering hundreds of acres of land affected to depths exceeding 65 feet bgs.
- A 25-site integrated petroleum remediation program introducing an intrinsic bioremediation program support with innovative soil gas monitoring techniques and augmented with engineered SVE and bioventing.

Brief Resume Continued

- Applied site-specific risk assessment/risk management with surgical remedial excavation of sites involving metals, pesticides, and PCBs.

Project required careful coordination to ensure safety and to minimize impact to existing flight line operations. Included compliance with CERCLA, RCRA, CIWMB, RWQCB, and LUFT program guidelines and required extensive negotiation with regulators during the Record of Decision (ROD) process. Developed a comprehensive FS for CERCLA sites in the ROD, which included cleanup plans for seven landfills and various PCB and heavy metals excavation sites.

San Francisco International Airport, Environmental Consulting Contract, JV Project Manager. Managed technical professionals performing environmental engineering and oversight on this $480,000 wetlands mitigation program. Directed environmental and geotechnical soil characterization, Title I engineering designs and specifications, Title II management/compliance oversight for habitat protection and pollution prevention.

Various Federal Contracts, Martinez, California, Project Manager. Managed basewide soil and groundwater characterization and CERCLA-compliant human health risk assessment, RI/FSs, and remedial design projects on federal contracts. Responsibilities included supervision of project technical team and QC personnel, subcontractors and laboratories, preparation of budgets and reports, and subcontractor selection. Coordinated and negotiated with clients and regulators.

Castle Air Force Base, Program Manager. Managed $20 million RI/FS project involving more than 200 basewide source control sites. Included investigating, permitting and locating thousands of strategic drilling and survey sample sites throughout the Base, data assimilation, follow-on sampling plan generation, and regulatory agency negotiations on hundreds of sample sites. Responsible for organizing, coordinating, tracking, designing, writing, reviewing, controlling costs, and maintaining schedules to publish a comprehensive 20-volume RI/FS. Implemented and advised many of the individual removal and remedial actions stemming from these reports.

California Wildlife Foundation, Bair Island Wetlands Restoration Design and Construction, Project Manager. Responsible for environmental and geotechnical characterization of soil on reclaimed estuary land, final design and construction management for construction of 34 acres of new seasonal wetlands. Managed the sampling and analysis program without impacting the sensitive habitat, and in one month engineered a wetlands design that exceeded biological, structural, and economical requirements. Created 11 wetland plans with a soil transport cost avoidance of nearly $1.5 million and successful wetlands mitigation ahead of schedule and 25 percent under the final budget value.

Air Force Center for Environmental Excellence (AFCEE), Architect and Engineering Contract, Program Manager. Led a 5-year, $1+ billion capacity worldwide Architect and Engineering contract. Currently directing 10 TOs worth $1.2 million in four US states and Korea. TO scopes include Title I and II services for environmental and traditional projects and support for AFCEE's emerging program areas.

Various Sites, Project Manager and Associate (Technical Manager). Managed field activities for UST removal, site assessment, and remediation and restoration on re-tanking program for major petroleum companies. Project manager responsibilities included procurement and supervision of subcontractors, schedule and budget planning and tracking, coordination with civil engineers, regulators and the public, and preparation and reports and corrective action work plans. Associate responsibilities included coordination of technical aspects of assessment and remediation, supervision of project managers, and senior review of reports and cost proposals.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Kenneth Leonard, R.G.	Hydrogeologist Technical Lead Ex-Situ Remediation Projects
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise RI/FSs; drilling oversight; soil excavation/removal; waste characterization
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Hydrogeologist	Education Graduate Studies, Geology (1982-1983); B.S. Geology (1982)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
21	21	R.G., CA (1992); 40-hour Hazardous Waste Site Worker (Initial + Annual Updates)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1996	Present
2.	Uribe & Associates	1995	1996
3.	Jacobs Engineering Group, Inc.	1993	1995
4.	Converse Environmental West	1990	1993
5.	Western Geologic Resources, Inc.	1989	1990
6.	United States Geological Survey	1984	1989
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Executive Summary of Career Highlights

Mr. Leonard is a California Registered Geologist extensive experience overseeing and performing environmental investigations, feasibility studies, remedial design, both ex situ and in situ remediation projects, remedial action oversight, and long term monitoring projects. He has expertise in subsurface contamination investigations including design and implementation of large-scale environmental sampling programs, drilling projects, design and installation of monitoring and extraction wells, pilot-scale remediation projects, and waste characterization and disposal. Mr. Leonard has been responsible for supervision of subsurface investigations and remediation projects. He has planned, coordinated and conducted groundwater monitoring well installation, soil and groundwater sampling, tank removal activities, and waste characterization and disposal. He also has interpreted geologic, hydrogeologic, geochemical, and geophysical data. Mr. Leonard has prepared reports for submittal to regulatory agencies. He has served as technical lead in remedial investigation of potentially PCB-contaminated soils at Stanford Linear Accelerator Center, and also served as project manager for ten Bay Area LUFT sites. He has been responsible for preparation of quarterly groundwater monitoring reports and hydrogeologic field activities, including groundwater sampling, soil sampling, water-level measurements, and well development. Mr. Leonard has produced groundwater potentiometric surface maps, isoconcentration maps, and stratigraphic cross-sections for reports. He has also served as research assistant to various mineral resource assessment projects, where his duties included compilation of geologic and geophysical data, providing interpretations of concealed terrain geology, and conversion of maps into digital form. Mr. Leonard has been responsible for collection, analysis, and input of mineral resource data for metallogenetic studies of northwestern Mexico and Alaska. He has also trained and supervised data entry staff. Mr. Leonard's specific project experience is as follows.

Los Alamitos Armed Forces Reserve Center (AFRC), Technical Lead. Technical Lead for annual groundwater monitoring program involving from 30 to 75 wells at Los Alamitos AFRC. Planned, coordinated and conducted groundwater monitoring well installation and soil and groundwater sampling. Authored Quarterly and Annual Monitoring Reports.

Naval Air Station North Island, Project Geologist/Technical Lead. Authored an Interim Removal Action Closeout Report for a SVE project for TCE impacted soil. The system included 7 horizontal SVE wells and 12 vertical air injection wells.

Brief Resume Continued

Field Activities/Remedial Construction, Presidio of San Francisco, Senior Project Geologist. Project involved assessment and cleanup of impacted soils and groundwater at the site. Developed work plans, oversaw field activities including drilling and sample collection, and prepared reports documenting the results and recommendations for further action. Also developed remedial action plans, oversaw soil removal, and prepared completion reports.

Fort Ord Military Reserve, Project Manager. Managed remedial action projects conducted at the facility. Responsible for producing program and project level documents relative to RI/FSs in accordance with CERCLA guidelines.

Hunters Point Naval Shipyard, Primary Author/Technical Lead. Primary responsibilities included producing numerous RI reports for various operable units in accordance with established CERCLA guidelines.

AFCEE, McClellan Air Force Base, California, Senior Geologist. Responsible for planning, directing and reporting investigation/remedial action activities. Provided technical oversight and supervised field activities such as soil drilling, soil sampling, installation of groundwater and SVE wells, monitoring wells and injection wells, and environmental sampling in support of Installation Restoration Program (IRP) and Base Realignment and Closure (BRAC) programs. Provided geologic input to the design and placement of SVE wells for a large-scale SVE system.

AFCEE, Castle Air Force Base, California, Senior Geologist. Responsible for planning, directing and reporting investigation/remedial action activities. Provided technical oversight and supervised field activities such as soil drilling, soil sampling, installation of groundwater and SVE wells, monitoring wells and injection wells, and environmental sampling in support of IRP and BRAC programs. Provided geologic input to the design and placement of SVE wells for a large-scale SVE system.

Former Naval Station Treasure Island, San Francisco, California, Technical Lead. Provided investigation, design and construction efforts for remediation projects as well as soil excavation projects. Prepared work plans, sampling plans, and closure reports. Supervised project engineers and geoscientists, sample technicians, and RAO/LTM personnel.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Robert Lindfors, P.E.	Senior Engineer
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise Soil and groundwater remediation design, installation, optimization; bioremediation
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Engineer	Education M.S., 1986, Civil Engineering; B.S., 1979, Biochemisty & Conservation of Natural Resources

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
19	19	P.E., Civil Engineering, AZ-Pending and CA (1996); 40-Hour Health & Safety Training for Hazardous Waste Operations (Initial + Annual Updates)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2003	Present
2.	MWH	1992	2003
3.	Kleinfelder, Inc.	1987	1992
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Executive Summary of Career Highlights

Mr. Lindfors is experienced in managing environmental remedial action, removal action, and remedial design projects. He has implemented more than $55 million in projects involving pilot and treatability studies, capping landfills, pump-and-treat remediation, bioremediation, natural attenuation, air sparging, thermal treatment, and product recovery. His responsibilities include directing work associated with environmental projects. He is responsible for performing compliance inspections for conformance to regulations for hazardous waste treatment, storage, and disposal facilities, and remedial action systems operation and maintenance. Mr. Lindfors ensures effective execution of projects, controlling project schedules and budgets, recommending changes to improve project efficiency and effectiveness, justifying change orders, tracking materials and resources, coordinating subcontractors' work, complying with health and safety procedures, ensuring compliance with regulatory requirements, following/implementing approved project work plans and specifications, and producing quality technical reports supporting remedial action. Mr. Lindfors also is experienced in environmental permitting.

Principal or Supervising Engineer/Project Manager. Has been responsible for all stages of turnkey projects, including conceptual design, detailed design, permitting, construction, and startup and operation. Provided application of construction management, engineering, and technical skills in the areas of hydraulics, geology, mechanical engineering, chemistry, and regulatory compliance to solve problems with multi-task solutions. Technical responsibilities for design projects included producing plans and specifications, making coordination checks between design disciplines, and adhering to QA/QC procedures. Experience in designing, constructing, operating, and maintaining subsurface remediation systems including groundwater extraction/treatment systems, SVE systems, bioventing systems, dual-phase extraction (DPE) systems, and earthwork projects including erosion mitigation. Experience with tools for project cost control/scheduling/critical path method (CPM) tools, computer-aided design tools, and decision and risk analysis tools.

Environmental Engineer/Project Manager. Responsible for managing design and construction of subsurface remediation systems. Duties included producing and assembling plans and specifications, coordinating design disciplines, scooping and negotiating multiple subcontracts, and managing multiple subcontractors. Responsible for executing environmental studies including health risk assessments, RIs, FSs, and site assessments. Responsible for field data gathering efforts, including collecting environmental samples, installing groundwater monitoring networks, and O&M of subsurface remediation systems.

Brief Resume Continued

Presidio, San Francisco, California, Project Manager. Projects included an ex situ soil treatability study, designs for landfill cap closure, and designs for UST/AST and fuel pipeline removal. Responsibilities included interfacing with the National Park Service, construction contractors and regulators and making technical presentations.

Former Chemical Processing Plant, Santa Clara Valley, California, Project Manager. Responsible charge for design and construction of a groundwater pump-and-treat turnkey project. Activities included acquiring permits, negotiating contracts, awarding and administering subcontracts, and procuring major pieces of equipment. Features of the system included a subsurface interceptor trench, collection sump, pH adjustment, air stripper, sand filtration, GAC absorbers, and an infiltration trench. Project won client acclaim for cost savings realized by using innovative design and installation of the interceptor trench.

Groundwater Extraction and Treatment System, Central Valley, California, Project Civil Engineer. Work included the design of a 1,000-gpm groundwater extraction and treatment system. Responsible for coordinating plans and specifications for all disciplines.

Treatment Systems, Several Municipal Well Sites, Sacramento, California, Engineer of Record. Work included the design and construction of treatment systems for wellhead treatment at various sites in the Sacramento area. Systems used GAC to remove chlorinated VOCs from drinking water aquifers.

Groundwater Extraction System, Industrial Client, Project Engineer and Construction Manager. Work included the design of a groundwater extraction system. Duties included supervising design efforts, including drawings and specifications. Served as the construction manager during the construction phase to provide a turnkey installation to the client.

SVE System, US Air Force Base, Arizona, Project Engineer. Work included design of a 1,500-cfm SVE system. Duties included writing specifications for a thermal oxidation system to treat off-gas.

SVE System, Silicon Valley Manufacturer, Project Engineer. Work included design of a 400-cfm SVE system. Duties included assembling bidding documents, writing specifications and design drawings, and construction inspection. Project was extremely fast-track and startup occurred on time.

Erosion Mitigation in Explosive/Ordnance Landfill, Vandenberg Air Force Base, California, Project Manager. Managed design/build and placement of gabion baskets as Storm Water Energy Dissipaters to control erosion on the border of this landfill containing Ordnance/Explosive waste. Led six geotechnical, civil engineering, MEC personnel, and site supervisory personnel in safe OE avoidance and clearing. Negotiated with the DRMO to accept hundreds of tons of excavated metal debris from a 25-foot ravine resulting in a cost avoidance of $100,000 to the US Air Force.

Design and Remediation, March Air Reserve Base, California, Project Manager and Principal Engineer. Managed multiple simultaneous delivery orders totaling more than $2 million annually at March ARB near Riverside, California. Projects included design and construction of subsurface remedial systems, RIs, FSs, pilot tests, site closure, and O&M of subsurface remedial systems, including bioventing, groundwater pump-and-treat, DPE, and SVE. Achieved site closure at a bioventing site. Recently won client acclaim for salvaging decommissioned remediation equipment and incorporating the equipment into an existing process train for groundwater that will save the client more than $1million in O&M costs over the project lifetime. Applied statistical methods to provide a decision tree to close groundwater monitoring wells for cost savings.

Environmental Investigation through Remediation and O&M, Confidential Client, Project Manager. Served as project manager at 16 sites in northern California. Projects included site investigations, health risk assessments, design/build of groundwater pump-and-treat systems, and O&M of SVE and pump-and-treat systems. Acted as liaison with State of California Water Boards and Air Quality Management Districts, and assisted legal counsel on settlement actions.

Monitoring and O&M, USACE, Sacramento District, McColl Superfund Site, Fullerton, California, Project Manager. Site activities were related to a RCRA-equivalent landfill cap and included operating a collection/treatment system for subsurface gas. Responsible for all regulatory required monitoring including groundwater. Successfully negotiated reduction in number of monitoring wells, frequency of monitoring. Authored 5-year review that assessed performance of the remedy.

Arsenic Removal System Design, Edwards Air Force Base, California, Project Manager. Managing design of two water treatment plants that will remove naturally-occurring arsenic from potable groundwater. The design maximum flow rates are 10 and 14 million gallons per day. Challenges include adapting dependable arsenic removal systems to large-scale applications.

Recovery Treatment System, Major Oil Company – Principal Engineer. Managed design and construction of a recovery system to mitigate migration of oily water to San Francisco Bay. Project won acclaim from the U.S. Environmental Protection Agency. Features of the extraction and treatment system include an interceptor trench and collection sump, particle filtration, an oil/water separator, filtration with activated clay, and granular activated carbon (GAC) absorbers.

Treatment System Design/Build, Multiple Sites – Principal Engineer. Served as project civil engineer for design/construction of two groundwater extraction and treatment systems in northern California (one 2,000 gpm and one 1,000 gpm). Each extraction system consisted of multiple extraction wells with conveyance piping, vacuum breakers, air release valves, and other appurtenances. The treatment trains included particle filtration, metering systems for sequestering (anti-scale) agents, VOC removal via air stripping, vapor abatement, and lift stations.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Nancy A. Nesky, E.I.T.	Senior Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise Site assessments; RI/FS; project management; remedial design/remedial action; community involvement
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Manager	Education M.S., Hazardous Materials and Waste Management (1994); B.S., Aeronautical Engineering (1992)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
18	12	E.I.T., AZ #05843 (1994); Registered Environmental Scientist #1155 (1995-1999); see executive summary for more registrations and certifications

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2005	Present
2.	LFR Levine Fricke	2003	2005
3.	Weston Solutions, Inc.	2000	2003
4.	Arizona Department of Environmental Quality	1994	2000
5.	City of Tempe, Public Relations	1988	2001
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Executive Summary of Career Highlights

Ms. Nesky's experience in environmental project management, environmental assessments, remedial design, and remedial construction for WQARF and CERCLA sites has led to proficiency in CERCLA, WQARF, RCRA, TSCA, CAA, UST, and Solid Waste regulations. She is also familiar with NPDES, AZPDES, SPCC, and SWPPP. Ms. Nesky has prepared complex project schedules, prepared and managed budgets, and conducted technical reviews for a variety of projects.

PA/SIs, Various Cities/Sites (Arizona), Field Staff & Project Manager. Conducted numerous field investigations including record searches, well inventories, personal interviews, site reconnaissance, and collection of environmental samples (soil, soil-gas, groundwater, and air) and PA/SI reports and expanded site investigation (ESI) reports. Prepared and presented briefing documents to EPA. Prepared WP, FSP, QAPP, and HASP for ASARCO project. Sampling media included soil, tailings, ponds, surface water, and groundwater. Prepared cost estimates and schedules. Evaluated potential for presence of registered wetlands and threatened/endangered species in the vicinity of the site. Prepared HRS score sheets and made recommendation for further actions. Evaluated data and prepared PA/SI reports to discuss analytical results obtained for the mine site. Evaluated potential for presence of registered wetlands and threatened or endangered species in the vicinity of the sites.

Remedial Actions at Various Federal and State Superfund Sites (Arizona), Project Manager. As an ADEQ Project Manager, served as the lead regulator responsible for interpreting federal and state rules, regulations, and policies as they applied to various federal and state Superfund sites. Coordinated remedial actions including scheduling, funding, legal, and community involvement aspects. Provided review and comments on technical documents as well as public relations information. Prepared status reports, 10-year work plans and budgets. Directed day-to-day progress on all assigned sites.

RI for Soil & Groundwater Contamination, Estes Landfill WQARF Site (Arizona), Project Manager. Investigation of the former landfill included evaluation of soil and groundwater investigation of the former landfill included evaluation of soil and groundwater contamination by chlorinated solvents and heavy metals. Reviewed and provided comments on various documents, including WPs, FSPs, QAPPs, RI Reports, technical memorandums on identification of beneficial uses of land and water and development of remedial objectives under the WQARF program. Coordinated quarterly groundwater monitoring and installation of additional monitoring wells with the City of Phoenix. Assisted Attorney General's Office in the search for PRPs including providing interpretation of technical documents. Negotiated access agreements with the City of Phoenix and the ASLD. Participated in several settlement negotiations, which resulted in signed CDs and money paid to ADEQ. Evaluated

Brief Resume Continued

and made recommendations on the type of landfill cap that would be appropriate for the site and the statutes, rules, and guidance's potential applicability regarding Natural Resource Damage. Coordinated work conducted within the Salt River Channel with the USACE. Coordinated with the Arizona State Historic Preservation Office to ensure that all work was conducted in accordance with applicable statutes, rules, and guidance.

Evaluation of Surface Water as Potable Water Source (Arizona), Project Manager. Developed a WP, FSP, and QAPP to collect and analyze various samples from multiple Maricopa county facilities served surface (lake) water for their only source of potable. Coordinated sampling activities associated with sampling of four surface water bodies. Reviewed analytical data submitted by an operator of one if the surface water sources at least one of the potable water areas within Maricopa County. Prepared technical report and subsequent technical memorandum to address concentration of contaminants of concern as well as documentation of sampling procedures and historical information that may have been gained by the site personnel.

Final Remedy Design Review & Construction Oversight, 19th Ave Landfill Superfund Site (Arizona), Project Manager. Reviewed and approved design and construction specifications for the final remedy, which included rechannelization of the Salt River Channel, construction of a landfill cap and sedimentation ponds, upgrades to landfill gas (LFG) collection system and flare stations, and re-vegetation of the landfill cap. Provided comments on Source Test Protocol procedures for initial operation of LFG flare stations. Reviewed and provided comments on O&M plan for two landfill gas flare stations. Prepared fact sheets regarding site history & progress. Performed construction oversight, site inspections, and evaluated construction work and installation of various systems such as Armorflex® channel lining system, landfill gas header system, and LFG flare stations. Reviewed, provided comments on, and approved numerous changes to the 100% design package for the construction of the final remedy at the site. Reviewed and provided comments on the source test protocols and O&M manuals for two LFG flare stations. Reviewed and provided comments on the "Remedial Action Report: Construction Complete." Made waste determinations and coordinated with ADEQ's HW Section on the disposition of wastes generated during final remedy. Conducted audit of construction files (incl. OSHA certifications) during construction of final remedy.

SVE with Thermal Oxidation, & Air Stripper at the Hassayampa Landfill Superfund Site (Arizona), Project Manager. Enforced a Record of Decision (ROD) and Consent Decree (CD) to implement soil remedies including construction of a cap over the hazardous waste area and operation of a SVE system with thermal oxidation to treat and control emissions. Conducted site visits to observe operation of remediation technologies and to evaluate performance of both SVE/thermal oxidation system and cap integrity. COCs included VOCs, heavy metals, pesticides, and lime wastes. Enforced a ROD and CD to implement groundwater remedies, including groundwater treatment by air stripping and reinjection.

Air Stripper Remediation, North Indian Bend Wash Superfund Site (Arizona), Project Manager. Conducted technical and regulatory oversight of O&M of air stripper unit. Provided regulatory assistance to EPA to enforce the ROD and CD. Conducted site visits to observe operation of the remediation system. System remediated PCE and TCE contamination and discharged treated water to an onsite reservoir for later distribution into a municipal drinking water supply system.

Review of "No Further Action" (NFA) Request for SVE Remediation, WCP WQARF Site (Arizona), Project Manager. Reviewed SVE system design for TCE for the Layke facility to evaluate a request for NFA. Reviewed O&M reports, historical data, and other reports related to the operation of the SVE system. Evaluated records and made recommendation to ADEQ on whether or not sufficient information was available to make a determination regarding NFA request.

PGA Superfund Site (Arizona), Project Manager. Conducted oversight of installation of SVE & air sparge wells for SVOCs and O&M of SVE and SVE/Air Sparge systems with vapor-phase GAC. Evaluated rebound prior to SVE decommissioning. Oversaw O&M of groundwater remediation systems, including air sparging, air stripper, liquid-phase GAC, and advanced affinity chromatography for chromium removal. 5-yr review to evaluate effectiveness/protectiveness of the final remedy.

Remedial Action Plan, Baldwin Metals Site, Arlington, Arizona, Project Manager. Provided technical and regulatory review of remedial alternatives for arsenic-contaminated soil at the Baldwin Metals RCRA site for the ADOA Risk Mgmt. Assisted in preparation of schedule and preliminary budget for implementation of remedial action. Managed and wrote the report to discuss results of 3D subsurface site characterization of arsenic concentrations, evaluate of remedial technologies, and present recommendation for future remedial action, including budgetary cost estimate and project schedule.

Groundwater RI/FS, Risk Assessment, RAP & ROD, Vulture Mill WQARF Site (Arizona), Project Manager. Conducted RI/FS for groundwater contamination by heavy metals. Reviewed and provided comments on the RI WP and RI/FS reports. Coordinated with the USACE for work conducted within the Hassayampa River Channel. Participated in Community Advisory Board meetings to discuss site characterization activities and results of sampling events. Managed and provided review and comments on interim technical memorandums and final risk assessment report, including site-specific lead bioavailability studies. Prepared the Proposed RAP and responsiveness summary for the final soil and groundwater remedies. Prepared the ROD for the final soil and groundwater remedies for mitigation of heavy metal contamination.

Community Involvement Liaison, Motorola 52nd St Superfund Site, Phoenix, AZ, Task Manager. Developed agendas for and facilitated CAG meetings, arranged for guest speakers, coordinated production/distribution of agenda, prepared presentation materials. Did interviews with community and other stakeholders and prepared a Community Involvement Plan.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Lawrence P. Onyskow, P.E.	Senior Hydrogeologist
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
PV	Groundwater modeling
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)*	Education
Civil Engineer; Groundwater modeling	M.S., Hydrology (1989); B.S., Hydrology (1976)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
27	27	Registered Civil P.E., AZ (1989); Registered Professional Geologist, AR, (1989); 40-hour OSHA HAZWOPER Training (1988 + Annual Updates)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2005	Present
2.	hydrologic Consultants, LLC	1992	Present
3.	Cella Barr Associates	1980	1992
4.	Arizona State Land Department	1979	1980
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Executive Summary of Career Highlights

Mr. Onyskow has extensive experience in groundwater hydrology, including aquifer recharge and restoration, water well location, well field design, surface and subsurface geophysical techniques, remote sensing, and aquifer test design and analysis. He has also performed well field design, installation, and rehabilitation. Mr. Onyskow is well versed in state law and regulations pertaining to water rights and the management of ground and surface waters. He also has performed remedial investigations and Arizona WQARF Program. He also has training in Applied Model Calibration: Construction, Calibration and Stochastic Simulations (1998). Mr. Onyskow's specific project experience is as follows.

Hydrologic Study and Groundwater Model Development, Modification of Assured Water Supply Designation, Interested Parties, Eloy, Arizona. Mr. Onyskow assisted in the development of a three-dimensional, transient groundwater flow model for a 600-square mile area encompassing the Eloy city limits. The model, funded by a consortium of 18 developers, was created to provide the Eloy with the water resource information needed to modify their designation as a water provider. Tasks included development of a conceptual model and water budget, selection of calibration targets, aquifer test analysis, generation of future demands, and modification of the calibrated model input data to evaluate the 100-year supply. The model will be used to locate new wells to meet the growing demand, and assist in locating areas for recharge. The model was completed in less than 6 months and is currently under review by the Arizona Department of Water Resources.

El Rio Watercourse Master Plan, Maricopa County Flood Control District, Phoenix, Arizona, Hydrologist. The Flood Control District intends to develop 17 miles of the Gila River floodplain with a mixture of parks, lakes, recharge facilities and other recreational amenities. Mr. Onyskow assisted the District with the water development portion of this project. It will be necessary to determine the existing conditions throughout the area; and, to assess the impacts of future pumping on planned amenities. Water use will be supplemented with imported water and reuse of effluent. Aquifer recharge zones will be identified which not only add to the water in storage within the aquifer; but, assist with maintaining water levels to support critical vegetative communities, as well. Extensive public participation is planned. The final product will be a regeneration of the river ecosystem coupled with numerous public facilities designed to enhance the "river" experience. The second phase of the project, development of a transient, three-dimensional groundwater flow model to simulate groundwater-surface water interaction as redevelopment proceeds along the Gila River, was awarded in 2005 and is currently underway.

Brief Resume Continued

Apache Junction Water Resource Evaluation, Apache Junction, Arizona, Hydrologist. Apache Junction was informed by the ADWR that it has an inadequate supply of water. As part of the Growing Smarter Program, Apache Junction prepared a comprehensive plan and Mr. Onyskow provided the water resource master plan. Tasks in this project include a review of existing hydrologic conditions, current and available water supplies and an analysis of potential future sources of groundwater to meet the Town needs.

Pecan Grove Irrigation Well, Pecan Grove, LLC, Queen Creek, Arizona, Hydrologist. Hired by the subdivision developer to design, install, and test a 1000-foot deep, 12-inch irrigation well capable of producing 1,000 gallons per minute (gpm). The well will be used to irrigate the existing pecan trees that will be retained in the subdivision. Tasks included developing the well and bid specifications, obtaining permits, negotiating with drilling companies, oversight of well drilling and geophysical logging and conducting step-drawdown test.

Central Phoenix Plume Model, ADEQ, Phoenix, Arizona, Hydrologist. Work involved with this project included the assemblage of data from regulatory agencies and private facilities, development of a water budget and site conceptual model, and creation of steady-state and transient models. Other models created in the area have been reviewed and evaluated. Progress on the modeling is presented at regular intervals at Technical Exchange meetings that are open to the public. Attendees include technical representatives from facilities and agencies in the model area.

Rancho del Sol Brilliante/Eloy Modification to Assured Water Supply Designation, Morrison & Maierle, Inc, Arizona. Currently developing a master plan and a groundwater flow model for the Eloy area to provide the town of Eloy with the water resource information needed to modify their designation as a water provider. Tasks include development of a conceptual model and water budget prior to development of the groundwater flow model. The model will be used to evaluate the 100-year supply, assist in locating new wells to meet the growing demand, and assist in locating areas for recharge.

Pinal County Water Master Plan, Pinal County Planning Department, Florence, Arizona, Hydrologist. In response to citizen concerns regarding the availability of water, Pinal County requested Mr. Onyskow's assistance with the water resource portion of the county's Comprehensive Plan for Area 4-B. Development of the water resource profile for this area required an extensive data search and document review to adequately assess the volume of water available and to compare this with the anticipated future demand. The project required not only production of a final report but also presentation of the results of this analysis at public meetings.

Rancho Sahuarita Assured Water Supply Demonstration, Rancho Sahuarita Water Company, Sahuarita, Arizona. A Demonstration of an Assured Water Supply was required for a 3,000 acre subdivision in Sahuarita, Arizona because it is located within the Tucson Active Management Area. Assembled data on historical and projected water uses, water level data, and hydrogeologic conditions beneath the site. These data were used to develop a groundwater flow model that demonstrated that a 100-year assured water supply for the proposed subdivision is available.

Nogales Assured Water Supply Study, City of Nogales, Nogales, Arizona, Hydrologist. Prepared a municipal scale assured water supply investigation designed to ensure the growth of the City of Nogales for 100-years into the future. In conjunction with the City staff, a comprehensive water acquisition plan was developed which included both a surface and groundwater resource assessment, and innovative methods of augmenting municipal supplies with effluent and CAP water. The method implemented during the program was recharge of municipal sewage effluent in the Santa Cruz River. This program demonstrated that the City had access to significant quantities of recharged water which more than offset future demands.

Peña Blanca Properties Water Adequacy Study, Nogales, Arizona, Hydrologist. Prepared a 100-year assured water supply study with special attention given to interaction between groundwater flow in the younger and older alluvial deposits and possible long-term effects on surface water resources from the proposed project; analysis included onsite aquifer testing for characterization of the host aquifer; worked closely with the developer, the water company, the Arizona Department of Water Resources and the Tucson Active Management office over historic water use and current demands in the City of Nogales in order to meet the goals of the Second Management Plan.

Phoenix Pilot Recharge Project, Phoenix, Arizona. Designed and implemented a pilot recharge system for the City of Phoenix using deep well injection technology. The goal of this project was to design a system which would allow existing City wells to be converted to the dual purpose of pumping and recharge. This design included a thorough investigation of the potential for trihalomethane contamination of the receiving aquifer due to the chlorine residual of the recharge water. In addition, a digital model of the entire recharge system was developed using the U.S. Geological Survey's MODFLOW program. This model not only helped estimate the impacts of various recharge scenarios on the source aquifer; but, it provided insight as to the effects recharge might have on the flow patterns of a contaminant plume which had been identified in the area.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Richard E. Purdue, P.E.	Senior Engineer/Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise Design & construction of groundwater remediation systems; site assessments; landfill/slope engineering
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Senior Engineer	Education B.S., 1980, Civil Engineering

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
25	25	P.E., 1987 (CA); Class A Contractor License, 1987 (CA); Hazardous Contractor, 1987 (CA); See executive summary for more certifications

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2002	Present
2.	Purdue Engineering and Construction	1987	2002
3.	IT Corporation	1984	1987
4.	Moretrench American Corporation	1981	1984
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Executive Summary of Career Highlights

Mr. Purdue is a specialist in landfill construction and provides turn key services for the identification, investigation, engineering, permitting, construction, and as-built documentation for projects involving waste containment, construction dewatering, waste solidification, and groundwater remediation. He specializes in the management, scheduling, and worksite preparation and maintenance for projects involving Endangered Species. Mr. Purdue's registrations and certifications aside from those listed above include 40-Hour Hazardous Waste Site Worker, and 8-Hour Hazardous Waste Site Supervisor. His specific project experience includes the following.

Engineering Experience

- Project Engineer for the solidification of 250,000 cubic yards of hazardous waste in Solano County, California.
- Project Engineer of various compacted fill placements and slope slide repair in Solano County, California.
- Project Engineer for bentonite slurry cut off wall construction for groundwater contamination in Martinez, California.
- Resident Engineer for the installation of HDPE synthetic liner for solid waste management unit in Imperial County, California.

Purdue Engineering and Construction, Inc., Concord, California, Senior Engineer/Project Manager. Performed landfill design, construction and closure, cost estimating and review for remediation projects, and surveying and geotechnical testing. Also performed design and construction of solidification systems for pits, ponds and lagoons, remediation treatability studies and field correlations, design and construction of groundwater extraction systems for treatment and disposal, and preliminary site investigations.

Brief Resume Continued

Various Projects, Martinez, California and the Surrounding Areas, Senior Project Engineer Specialist. Duties included the supervision of the design and construction of hazardous waste projects using the following areas of project management and engineering disciplines: QA/QC plan design, implementation and documentation; design and construction of hazardous waste management units; closure design and construction of existing hazardous waste management units; and remediation of various types of hazardous waste. Also performed supervision of geotechnical laboratory providing design information and as-built construction per ASTM, Caltrans and EPA specifications, design and construction of groundwater cut off systems (i.e., slurry walls, grouting systems and ground freezing), design and construction of all types of groundwater monitoring systems, and design and placement of various types of synthetic liner systems.

Landfill Closure and Consolidation, March AFB, California, Site Superintendent. Managed the design and construction activities of the consolidation and closure of 10 landfill sites within the Base through a contract with the USACE. Managed landfill design, remedial design, landfill permitting, and regulatory approval. Designed and constructed two Corrective Action Management Units (CAMUs) for waste consolidation and closed other landfills in-place. Completed this project in a short period of time and at $30 million below the initial budget estimate of $40 million.

Winterization Project, Panoche Class I Hazardous Waste Facility, Benicia, California, Site Superintendent/Project Manager. Oversaw the winterization project, which required management of millions of gallons of contaminated water and erosion control. Work was completed with consideration for impact on endangered species of bats and butterflies. Surveyed the worksite for species in question and scheduled work to accommodate mating seasons and life cycles.

Emergency Landfill Cap Construction, Hunters Point Landfill, San Francisco, California, Independent Certifying Engineer. Certified the emergency construction of a cap for this high-profile landfill that had caught fire. Oversaw the installation of this 16-acre cap that was completed in less than 5 months and included a foundation, geosynthetic bentonite liner, HDPE liner, vegetative soil cover, and landfill gas collection.

Class I Waste Facility, Contra Costa County, California, Site Superintendent. Managed sludge solidification and waste consolidation prior to closure. Construction methodology and scheduling was modified to accommodate the presence of the Salt Marsh Harvest Mouse, an Endangered Species.

Benson Ridge Class I Hazardous Waste Facility, Lake County, California, Independent Certifying Engineer. Observed and certified the permitted closure of this 40-acre site.

Groundwater Recovery, Richmond, California, Project Manager. Managed the construction of a 2,000-foot long groundwater recovery trench under an EPA Waste Discharge Order.

Liquid Waste Management Unit Construction, Kern County, California, Consulting Engineer. Provided consulting services for this construction project that involved protected habitat for the kit fox, an Endangered Species. Took special care in the field to manage and isolate the work site to discourage encroachment by the kit fox.

Site 31 Remediation, Concord Naval Weapons Station, Concord, California, Project Manager. Provided engineering and surveying services for documentation of the remediation of Site 31, which included soil removal and site restoration.

Soil Testing and Surveying, Project Manager. Managed soil testing and surveying documentation for the remedial cleanup of various Naval facilities in Northern California including Alameda Naval Air Station, Point Molate Fueling Depot, and Hunters Point Ship Yard.

Soil Testing and Surveying, Project Manager. Managed soil testing and surveying documentation for the remedial cleanup of various Naval facilities in Northern California including Alameda Naval Air Station, Point Molate Fueling Depot, and Hunters Point Ship Yard.

Permitted Class I Solid Waste Management Unit Construction, Kern County, California, Consulting Engineer. Consulting Engineer for the construction of a Class I facility, that involved protection of the Kit Fox, and Endangered Species. Isolated the work site, taking care to cover open holes and to maintain lay-down areas in an appropriate manner.

Underground Storage Tank Closure, Richmond Meats, Richmond, California, Project Manager. Permitted and implemented the in-place closure of seven 12,000-gallon fuel USTs.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
W. Charles Shafer, P.E.	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise Site assessments; RI/FSs
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Manager; Project Geologist	Education B.S., Geology (1978)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
15	15	P.E., KY (1984); 40-hour OSHA HAZWOPER Training (Initial + Annual Updates)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2002	Present
2.	CCI Constructors	2001	2002
3.	IT Hanford Company	2000	2001
4.	IT Corporation	1989	2000
5.	Consolidation Coal Company	1985	1989
6.	Sierra Coal Company (sold to Consolidation Coal Company in 1985)	1981	1985
7.	Lake Coal Company	1978	1981
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Executive Summary of Career Highlights

Mr. Shafer has extensive experience in environmental investigations and studies as well as implementation of remedial actions at a variety of sites across the US. His experience includes remediation of VOCs, SVOCs, metals, pesticides, radionuclides, ordnance compounds, PCBs, petroleum, lead-based paint, and asbestos. He has experience in project implementation under CERCLA, RCRA, and NEPA. In addition, he has experience in UXO avoidance at DOD facilities. His specific project experience is as follows.

Remedial Activities, Homestead Air Force Base, Florida, Project Manager. Implemented work plans for O&M of five SVE systems and decommissioning of those systems. Managed soil removal action totaling 6,000 tons, reconstruction and capping of a six-acre construction debris landfill, and short and long-term groundwater monitoring. Contaminants included arsenic and PAHs. Support provided to AFCEE and AF included full participation in RAB meetings and Tier 1 meetings and preparation and presentation of technical briefings for Dade County, FDEQ and USEPA Tier 1 representatives. Established high level of trust and client loyalty. Client relationship resulted in additional work assignments.

Soil Removal Action, USACE Louisville District PRAC, Fort Sheridan, Illinois, Project Manager. Acted as a single point of contact (POC) for coordination with USACE. Originally contracted for $600,000 and soil characterization and 6000 ton removal action. CERCLA-driven project grew to over $3 million within nine months of mobilization. Implemented remedial action plans, including removal of PAH contaminated soils. Hauled over 25,000 tons of contaminated soil and backfill, to/from disposal facility without incident. Negotiated with city and local developers for use of haul routes through congested construction areas and local neighborhoods. Negotiated contract modifications of $250,000 that were awarded at four to six week intervals throughout the life of the field effort.

RI/FS, Bechtel-Hanford Company's Environmental Restoration Disposal Facility (ERDF), Hanford, Washington, Project Manager. Managed 15 personnel in completion of RI/FS. Unique regulatory approach to licensing this new facility developed and executed jointly with local USEPA Region 9 office. Modified RI/FS report to incorporate NEPA elements, and conducted groundwater modeling in parallel with DOE performance evaluation study to satisfy RCRA requirements and to gain DOE approval for the facility. Decision documents (ROD) successfully obtained following three public meetings.

Brief Resume Continued

CERCLA Radionuclide Study and Removal, Norton AFB, California, Project Manager. Responsible for the overall management of the contract including cost, schedule, and technical quality. Managed background radionuclide studies and reports, and excavation and disposal of 500 tons of radium-contaminated piping and soils. Widespread background radiation was detected in soil samples on the base and uranium levels were increasing in public water supply wells. Provided public meeting participation for a particularly active public contingent in the RAB. Background study results demonstrated that radioactivity occurring in the soils was naturally occurring, and resulted from uranium deposits in the Santa Ana Mountains which eroded into the sediment delta and Santa Ana wash. Literature study demonstrated that rising uranium levels in water supply wells resulted from over-pumping, and resulting water table depression, which was producing oxidizing conditions. This liberated uranium in the soils by reducing conditions.

Remedial Action, Homestead Air Force Base, Florida, Project Manager. Completed construction of the OU 11 Military Canal remediation, meeting a critical Last Remedy In Place. Included placement of over 612,000 square feet of fabric-formed concrete on the bottom of a two-mile section of the canal and encapsulation of contaminated sediment, preventing contaminant transport into the Biscayne National Park. Poured over 6800 cubic yards of concrete, underwater, with no incidents. All work was accomplished by divers working in 10 to 15 feet of water. Observation and avoidance techniques followed UXO guidelines to ensure diver safety in the presence of a large endangered American Crocodile. Provided support and presentations on behalf of the Air Force in quarterly RAB and Tier I meetings with EPA Region IV, Florida Department of Environmental Protection, and Miami-Dade Department of Environmental Restoration and Management. Worked closely with the South Florida Water Management District.

RI and IRAs, Langley AFB, Virginia, Project Manager. Managed remedial investigations of five landfills ranging from two to ten acres. Investigation on these UXO sites required remote drilling techniques, and ordnance avoidance protocol. Interim Removal Actions included soil removal and demolition of several structures up to 3,000 square feet. Waste streams managed included demolition debris and soils containing pesticides, lead-based paint, asbestos, and low levels of PCBs. Participated in Tier I and Tier II meetings with Air Force, USEPA, and VDEQ. Documents produced included Remedial Investigation Work Plans and Reports, Interim Removal Action Plans and IRA Reports, and various investigation reports for the POL compliance program.

Soil Investigation and Remediation, Cape Canaveral Air Force Station, Florida, Project Manager. Currently managing remedial investigation and soil remediation of up to 4000 tons of PCB, PAH, and RCRA Metals contaminated soil. Remedial investigation includes obtaining hand augered soil samples from 75 locations and up to six split spoon samples each from 40 soil boring locations. Excavation and transportation of soil to RCRA landfill.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Tej P. Singh	Program Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise RI/FSs; Soil Excavation and Removal; Soil and Groundwater Remediation System Evaluation
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Senior Engineer	Education B.S., 1989, Mechanical Engineering

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
17	17	40-Hour HAZWOPER Training (1989 + Annual Updates); 8-Hour HAZ-WOPER Supervisor (2001); Nuclear Gage Operator License, CA (1989)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1994	Present
2.	Environmental Solutions, Inc.	1989	1994
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Executive Summary of Career Highlights

Mr. Singh is a Program Manager with extensive experience managing Hazardous, Toxic and Radioactive Wastes (HTRW) engineering and construction projects. Hands-on experience includes soil and groundwater remediation, landfill cap construction, SVE, bioremediation, UST removal and replacement, construction QA/QC inspection and geotechnical testing. Responsible for U.S. Navy emergency response. As Project Engineer for the design and installation of several pilot and final vapor extraction systems, was responsible for ongoing air sampling, monitoring for radius of influence, extrapolation specifications for final system, selection of permanent system, cost control, permitting, and installation of final units.

Frazee Industries, Phoenix, Arizona, Project Manager. Managed the closure of this former paint manufacturing facility over an eight-year period. Executed project in accordance with approved plans and specifications, statement of work, and federal, state and local laws and regulations. Ensured coordination between the Health and Safety Manager, Quality Control, and the site personnel. Responsible for agency negotiations, development of work plans, installation of monitoring wells, quarterly monitoring activities, preparation of monitoring reports, selection of the final remedial option for the site, remediation of soil and groundwater through soil vapor extraction, and development of technical position to support closure.

Naval Postgraduate School, Project Manager. Managed major drainage repair project for a Navy site. Involved installation of 4,000 feet of underground drainage pipe, installation of over 100 concrete catch basins, construction of 70 concrete water dissipaters and 1,000 linear feet of retaining wall. Expedited in-field design modifications and worked closely with residents to minimize disruption, since the project was completed while the complex was occupied.

Koppers Superfund Site, Project Manager. Responsible for independent Construction QA/Management team for construction of a Class I impoundment. Observed daily activities, reviewed construction documentation for installation of clay and synthetic liners, reviewed material testing data, approved in-field modifications, and prepared certification of as-built rpts.

Expedited Response Action, Gentile Air Force Station, AFCEE, Kettering, Ohio, Operations Manager. Mobilized resources to the field within 24 hours to remediate TCE-contaminated soil at two sites. Completed the project within 60 days, included excavation of 13,950 tons of contaminated soil and support for remediation for contaminated groundwater. Met AFCEE's "Last Remedy in Place" deadline, for which the US Congress had been briefed. To achieve the time-critical aspects of the job, partnered with AFCEE and regulators and used value engineering to streamline and deliver the project two weeks

Brief Resume Continued

ahead of schedule and $250,000 under budget.

Time-Critical Landfill Gas Removal Action, Hunters Point Naval Shipyard, Parcel E, Department of the Navy, Novato, California, Operations Manager. Responsible for resource allocation for this $2.2 million Time-Critical Landfill Gas Removal Action. The Navy urgently needed to prevent further migration of methane gas and extraction of gas already present that was discovered from Parcel E next to the University of California. Immediately upon notification, began to optimize and finalize the design and mobilized to the field within one week to complete the project within three months to meet the Navy's commitment to both the regulators and the community. Performed operations management, final design, cost estimating, cost tracking, and cost/schedule reporting. Fieldwork included trench excavation, stockpiling and disposing of soils, fill material selection, air monitoring, confirmation sampling, and SVE and extraction well installation and operations.

HTRW Lead Removal Action, Point Vicente Interpretive Center, USACE Los Angeles District, Rancho Palos Verdes, California, Operations Manager. Responded to an urgent request to investigate soil contaminated with lead bullet fragments from former US Army small arms firing range. Interpretive center was being expanded, so ongoing construction was immediately halted and the site was closed to public access. Managed site assessment and an RI/FS, reviewed the RAP, and completed HTRW remedial action. Mobilized to the site within one month, concurrent with finalization of the work plans. Optimized excavation and confirmation sampling to enable completion of the field work in four months, enabling the expansion construction to begin ahead of schedule.

Superfund Site, Madera, California, Site Engineer. Managed demolition of a Superfund site including subcontractor coordination, agency interaction, verification sampling, disposal of hazardous waste to a Class I facility, cost control, set-up of air monitoring equipment, calibration, set-up of weather station, air sampling protocol, maintenance during sampling period, and dismantling of monitoring system.

Various Projects, Project Engineer/Project Manager. As Project Engineer for the design and installation of several pilot and final vapor extraction systems, was responsible for ongoing air sampling, monitoring for radius of influence, extrapolation specifications for final system, selection of permanent system, cost control, permitting, and installation of final units. Also performed a Phase I site assessment for abandoned railway yard in Riverbank, California. Assessment involved a site walk, research of historical aerial photographs, plans and leases, determination of the extent of contamination, a summary report outlining findings and recommendations for further remedial activity. Also provided engineering and project management services for federal and industrial HTRW investigation and remediation projects. Single point of contact for task orders and execution of all cleanup activities in accordance with the statement of work, SSHP, CSAP, WP, and all federal, state, and local laws and regulations.

Landfill Closure, Fort Hunter Liggett, California, Remediation Manager. Remediation manager for a landfill closure that required more than 700,000 square feet of 60 mil LLDPE geomembrane and gas collection system. Approximately 80,000 cubic yards of soil was used to construct the landfill cap foundation and vegetative cover. More than 30,000 cy of soil was processed through a 1 inch screen for placement on the geomembrane. The project also included the construction of perimeter roads, gas vents, monitoring wells, concrete drainage swales, erosion control features, and site revegetation. After the project was mobilized the scope of work was increased by 200%, and ITSI completed the additional work with only a 50% increase in schedule duration. The project will be completed well under budget.

Former Richards-Gebaur AFB, Belton, Missouri, Program Manager. Program Manager for Removal Action for Man Made Lake South Conterminous Area. This removal action consisted of draining a 5-acre man made lake, Clearing and grubbing 20 acres around the lake, removal of the embankments and reestablishing drainage. The goals of the project were to remove the physical danger posed by the lake, remove the hydrostatic head differential impacting the landfill area, allow for easy access and removal of potentially contaminated lake sediments, allow subsurface conditions to stabilize, and conduct groundwater monitoring to support the selection of a final remedy. After draining the lake ITSI monitored groundwater levels, performed sediment dewatering, constructed culverts, and performed drainage restoring, site restoration, confirmation sampling, and quarterly groundwater monitoring.

Other Landfill Experience. Project Engineer for installation of 9-acre composite liner cap for a solid waste landfill for Dow Chemical in Pittsburgh, California. Responsibilities included monitoring of soil placement, soil testing and grading, compaction and permeability testing, construction QA/QC, design and construction of drainage system, and QC of liner installation (conducted investigation/testing of several types of appropriate liners). Also performed as Project Engineer for the design of several landfill liner and cap design projects. Responsibilities included development of construction specifications and QA manuals, bid documents and resolutions regarding constructability and feasibility issues. Liner experience included exposure to various types of liner and liner systems, liner construction and welding techniques, diverse testing procedures, and installation QA/QC.

Groundwater and Soil Remediation. Served as Project Manager for remediation support services at Hamilton Army Air Field in Novato, California. Managed up to 25 persons ranging from sample technicians and sample coordinators that supported remedial construction activities to technical individuals assisting in report preparation. Project activities were performed under the direct oversight of the USACE and followed USACE QA/QC and sampling protocols.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
David Wineman, R.G.	Project Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PV	Area of Expertise CERCLA, RCRA, project management, RI/FS, preliminary assessments
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Project Manager	Education M.S., 1983, Land and Water Resource Management; B.A., 1980, Geography and Biology

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
22	22	Registered Geoscientist, 2004 (TX); 40-Hour Hazardous Waste Site Operations; 8-Hour Hazardous Waste Site Supervisor (Initial + Annual Updates)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2003	Present
2.	Versar, Inc.	1999	2003
3.	Earth Tech	1995	1999
4.	Chemical Waste Management, Inc.	1990	1995
5.	Maxim Engineers, Inc.	1989	1990
6.	U.S. Environmental Protection Agency	1985	1989
7.	Ecology and Environment, Inc.	1984	1985
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Executive Summary of Career Highlights

Mr. Wineman has extensive experience in providing environmental services at DoD sites including technical oversight, project management, QA/QC, data collection, reporting and regulatory interface. He has managed and participated in multiphase investigations to assess the presence and distribution of contaminants in soils and groundwater. Project responsibilities have included development of sampling plans to determine the horizontal and vertical extent of contamination, definition of hydrogeological characteristics, groundwater monitoring design and placement, remediation system design and construction of remediation systems. In addition, Mr. Wineman has managed design and construction of a multiphase remediation system to remove chlorinated solvents and petroleum hydrocarbons from soils and groundwater. The remediation system design included soil vapor and groundwater extraction using granular activated charcoal for both the vapor and liquid phase treatment. Additionally, treated groundwater was re-injected to prevent offsite migration of contaminants. System design included increased capacity to treat contaminated groundwater from other operable units. System remediation design requirements included compliance with the base record of decision and NPDES discharge limits.

USEPA RCRA Inspector/ FIT Regional Project Manager. Performed LDR, TSCA and RCRA facility compliance inspections and criminal investigations. Routinely provided investigative reports to guide enforcement by the Hazardous Waste Division and Regional Counsel. Duties included hazardous waste sampling, groundwater monitoring, oversight of state RCRA Programs and serving on the USEPA Groundwater Task Force for Region 5. Field Investigation Team Regional Project Officer duties included FIT contract management, issuing technical directives and contractor evaluation reports, and interfacing with USEPA Headquarters, EPA management, and state regulatory agencies.

Radiation Survey and Remediation, Norton AFB, California, Project Manager. Provided radiation surveys and remediation of cadmium-contaminated concrete floor and drain pipes. Project included an initial survey and report, removal of contaminated materials, building repairs, and a post-remediation survey and report in accordance with new MARSSIMs cleanup standards, a first for the AFIOH. Documentation of all phases of the project was approved by state regulators, allowing the Air Force to transfer the property to the public sector.

Environmental Survey, Randolph AFB, Texas, Project Manager. Researched historical and current databases and

Brief Resume Continued

evaluated on-base and off-base waste sites to determine possible sources of contamination in Water Well No. 1. Activities included review and evaluation of well camera logs to evaluate the presence and possible sources of well contamination.

Environmental Impact Statement (EIS), Altus AFB, Oklahoma, Project Manager. Performed an EIS for repair of the west runway and installation of an Instrument Landing System (ILS) and a Microwave Landing System (MLS) to provide continued high-quality training programs to satisfy US Air Force aircrew requirements. This EIS analyzed potential impacts of the Proposed Action and six alternatives. Minor comments from the public were reviewed on the draft EIS, allowing for easier preparation and acceptance of the final EIS.

PA/SI, Areas of Concern (AOCs) 11 and 12, Goodfellow AFB, Texas, Project Manager. This project included researching historical activities that occurred at AOC 11 and 12, identifying what, if any, impacts occurred from historical activities, conducting visual observations of the areas, collecting a limited number of soil samples, installation and sampling of two temporary wells, performing laboratory analysis of the samples, and preparing technical reports detailing the results of the observations and field activities.

Remedial Investigation, Landfill 29, Lackland AFB, Texas, Project Manager. The RI included characterization of the boundaries of the landfill, identification of potential source areas within or surrounding the landfill boundaries, and assessing the vertical and horizontal extent of potential contaminants of concern in soil and groundwater. Data generated from sampling events were used to evaluate the risk to human health and the environment using human health and ecological risk assessments and fate and transport modeling. The Base was able to perform a FS to determine the appropriate remedial action.

Feasibility Study, Landfill 29, Lackland AFB, Texas, Project Manager. FS activities included preparation of a work plan, conducting field work to support remedial design for groundwater and soil contamination, preparing an FS report for groundwater and oil, and preparing a Proposed Plan and Decision Document for groundwater and soil. Remedies studied were capping with clay, capping with a synthetic liner, and waste removal. Selected remedy was clay capping with hydroseeding. Work also included preparing and publishing a public notice, conducting a public hearing/information fair during public comment period, and preparing meeting minutes. The Base did not receive any comments from the state concerning the adequacy of the FS. The Base was able to proceed to the design phase for capping the landfill.

Remedial Investigation, Landfill 28, Lackland AFB, Texas, Project Manager. Included characterization of the boundaries of the landfill, identification of potential source areas within or surrounding the landfill boundaries, and assessing the vertical and horizontal extent of potential contaminants of concern in soil and groundwater. Data generated from sampling events were used to evaluate the risk to human health and the environment using human health and ecological risk assessments and fate and transport modeling. The Base was able to proceed to perform a FS to determine the appropriate remedial action.

Inspections/Enforcement, Wood Treating Facilities, Texas, Louisiana, and Arkansas, USEPA Inspector. Oversaw investigations and cleanups at numerous wood treating facilities. Responsible for ensuring cleanup of several significant releases of wood treating chemicals to the environment.

Earth Tech, Project Manager. Performed as Project Manager for environmental assessments for compliance with NEPA. Responsibilities included project design, project work plan development, ensuring compliance with federal and state environmental and safety policies and regulations for assigned projects, regulatory interface, and negotiations on behalf of clients.

Chemical Waste Management, Inc., Environmental Compliance/Permit Manager. Responsible for environmental compliance and permitting for several facilities, including a stabilization unit, a drum processing unit, a bulk fuels blending process, and both active and closed landfills. Project included ambient air monitoring, NPDES monitoring, fugitive emissions monitoring, and Louisiana Air Toxics compliance.

Long Term O&M, Goodfield AFB AAFES Station, Texas, Project Manager. Performed as Project Manager and author of Long Term Operation and Maintenance at the Goodfield AFB AAFES Station. Work included monthly maintenance of the remediation system at the AAFES Station, project removal, groundwater depth measurements, and a closure report.

AETC and AFCEE Programs – Program Manager. Technical coordinator of AFCEE and project managers for cleanup of Lowry AFB, including asbestos surveys, PCB cleanup, UXO removal, waste management, reporting, and support for public hearings. Liaison with AFCEE contracting officer and team chief, submitting monthly reports on work accomplished, monitoring results and effectiveness of selected remedies.

Environmental Compliance/Permit Manager. Responsible for facility environmental compliance, permitting, monitoring and reporting for stabilization unit, drum processing unit, bulk fuels blending process, and active and closed landfills. Maintain permit compliance and obtain CAA, CWA, RCRA, TSCA, FCC and NRC permits. Review and develop profiles for site waste streams, report on land disposal compliance, support negotiations with state and federal agencies. Perform ambient air, NPDES, and fugitive emissions monitoring; meet Louisiana Air Toxics compliance. Comply with all reporting requirements to state regulators and USEPA.

Hazardous Materials Manager. Remedial implementation, monitoring, sampling, and compliance reporting for projects including industrial/hazardous waste site cleanups and waste disposal.

SECTION 14: RESUMES
PROFESSIONAL LEVEL VI

Responsibilities:	Recognized registered professional, resident expert, expert testimony, QA of Project Plans and report review and/or oversees and coordinates all levels of personnel, senior technical leader and has signature authority.
Qualifications No. 1:	5 or more years in field project formulation, survey, excavation and technical reporting experience.
Education No. 1:	Doctorate degree AND registration (P.E. or R.G.).
Qualifications No. 2:	12 or more years of experience.
Education No. 2:	Advanced degree in field AND registration (P.E. or R.G.).
Qualifications No. 3	20 or more years in field project formulation, survey, excavation and technical reporting experience.
Education No. 3:	Bachelors degree in applicable field of study

Proposed ITSI Team Members:
Irene S. Fanelli, C.I.H.
Jeffery D. Hess, R.G.
Eric Munro, P.E.
Lawrence E. Phillips, R.G.
Andrew Sabin, Ph.D.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Irene S. Fanelli, C.I.H.	Health and Safety Program Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PVI	Area of Expertise work plan review; health & safety supervision & training; air monitoring (ambient & worker exposure); data management
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Health & Safety Program Manager	Education M.S., 1984, Occupational Safety and Health; B.S., 1979, Industrial Hygiene; J.D., 1990, Law

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
27	27	CIH, Comprehensive Practice, ABIH (1988); Cal-OSHA Certified Asbestos Consultant (1997); See executive summary for more certifications

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1994	Present
2.	Environmental Health Consultants, Inc.	1988	2002
3.	Canonie Environmental Services Corporation	1985	1988
4.	Orange County Transit District	1984	1985
5.	United Technologies Corporation – Essex Group	1981	1982
6.	American Can Company	1979	1981
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Executive Summary of Career Highlights

Ms. Fanelli has extensive experience in industrial hygiene and in developing and implementing safety and health plans at hazardous waste sites. She develops personal protective equipment programs including air monitoring programs for working in toxic, flammable, and combustible atmospheres and confined spaces. Her remediation project experience includes tunneling in contaminated soils, slurry wall installation, excavation and construction of source intercept trenches, closure of evaporation ponds at an active Class I hazardous waste disposal facility, excavation, neutralization and redisposal of an acid landfill containing sludges, liquids and containerized wastes, excavation and onsite thermal aeration of hydrocarbon-contaminated soils, UST removal, closure maintenance of a sanitary and hazardous waste landfill, and excavation and redisposal of wastes and soils containing heavy metals, pesticides, PCBs, PAHs, and halogenated and non-halogenated hydrocarbons. Much of this experience involved work at federal and/or state Superfund sites.

Ms. Fanelli has developed and implemented a wide variety of air monitoring programs for evaluation of employee exposures and ambient air quality. Unique air monitoring applications have included evaluation of influent and effluent air streams associated with in-situ soil aeration and installation and modification of a monitoring network consisting of Foxboro Organic Vapor Analyzers with personal computer interface for data acquisition and analysis.

Ms. Fanelli integrates H&S programs with regulatory compliance and corporate policy requirements addressing CERCLA, RCRA, SARA, and OSHA regulations, local ordinances, and corresponding state programs. She also integrates H&S programs for projects involving soil excavation, removal and disposal; liquids handling and transfer; AST and UST tank closures; and handling, transport and disposal of multiple types of hazardous materials and wastes, as well as other types of environmental projects. Her experience includes comprehensive knowledge of personal protective equipment, respiratory protection, emergency preparedness, confined space entry, medical surveillance, H&S training and hazard communication. She has also developed and implemented a wide variety of air monitoring programs for evaluation of employee exposures and ambient air quality. Ms. Fanelli's registrations and certifications aside from what is referenced above include AHERA Asbestos Abatement Project Designers (1997), AHERA Asbestos Contractors and Supervisors (1997), AHERA Asbestos Inspector/Planner (1997), Lead Certification Training for CIHs (1997), and Certified Hazardous Waste Worker and Supervisor. Her specific project experience is as follows.

Brief Resume Continued

Canonie Environmental Services Corporation, Health & Safety Manager. Responsible for occupational and public health safety programs associated with hazardous waste remediation projects. Specific efforts included development and implementation of a 48-hour training course, supervision and training of project health and safety staff, supervision of a $460,000 construction project for pesticide remediation, and oversight and coordination of all air monitoring programs including sampling protocols, quality assurance, laboratory analyses, interpretation of data, and reporting.

American Can Company, Corporate Industrial Hygiene Engineer. Duties included employee exposure evaluations, recommendations of engineering and work practice controls, revision of existing programs, and implementation of new programs. These services were provided to the full range of industries owned by American Can Company including metal, plastic, composite and paperboard packaging, pulp and paper mills and converting plants, Dixie paper products, and paper, towel and tissue manufacturing.

Lorentz Barrel and Drum Site, San Jose, California, Certified Industrial Hygienist. Provided H&S support during removal of approximately 30,000 drums from a CERCLA site. Project activities included "hot spot" excavation for offsite disposal of PCB- and lead-contaminated soils.

H&S Manager and Certified Industrial Hygienist, Operating Industries Landfill, Monterey Park, California. Certified Industrial Hygienist for maintenance and upgrades of the landfill cap and gas/leachate collection systems at this CERCLA site. Designed and implemented a comprehensive baseline exposure assessment program for site workers and assisted with preparation of the site Safety, Health and Emergency Response Plan.

US Navy, Environmental Multiple Award Contracts; Southwest Division, H&S Program Manager. Oversaw multiple tasks for environmental remediation including landfill gas removal and crack repairs and removal of PCB-containing transformers. Ensured that workers and the environment are protected from multiple environmental hazards during execution of these projects, implementing dust controls, air monitoring, and establishing required PPE levels as well as other requirements.

Tracy Army Depot, H&S Program Manager. Oversaw the H&S program for this storm water management and redirection contract for NAS San Diego. Performed the project with no lost time accidents. Developed Project H&S Plan for water storage tank repair and re-lining; provided worker training for lead awareness and confined space entry; conducted confined space entry monitoring and lead exposure monitoring for the project.

Sierra Army Depot, H&S Program Manager. Oversaw the H&S program for this storm water management and redirection contract for NAS San Diego. Performed the project with no lost time accidents. Developed the H&S Plan for excavation of contaminated soil and backfill at the former fire-fighting training areas at Sierra Army Depot.

Fort Hunter Liggett, Landfill Cap Construction/Closure, California, H&S Program Manager. Authored the site health and safety plan for this massive capping and closure project on nine landfills. Provided health and safety inspections and oversight. Developed, implemented, and oversaw all safety and health related aspects of HTRW work. All work was completed safely and with no OSHA reportable incidents.

Groundwater Extraction Pilot Test, USACE Titan 1-A Missile Silo, California, Certified Industrial Hygienist. Authorized comprehensive health and safety plan for pilot tests of several groundwater extraction technologies including installation of a rigid piping gallery into a 27-foot deep, 3-foot wide trench measuring 200 feet in length. Pipe gallery placement required observers on the edge of the trench. Deployed mobile man lifts, safely placing field personnel on viewing platforms at the trench's edge, 1 foot off the ground. ITSI completed the pipe gallery placement safely under high hazard conditions. All project activities, including gallery welding, were completed with no OSHA reportable incidents.

Hamilton Army Airfield, Novato, California - H&S Manager. Provided third-party data validation for high-volume air sampling during landfill closure activities in accordance with EM 385-1-1.

Almaden Air Force Base, California - H&S Manager. Prepared project H&S plan and a lead compliance program for demolition of an aboveground fuel storage tank coated with lead-based paint. Conducted worker training and lead exposure monitoring for the project.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Jeffery D. Hess, R.G.	Program Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PVI	Area of Expertise Conceptual site models; RI/FSs; remediation technology; DNAPL
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Technical Advisor – Geology	Education M.S., 1985, Geology; B.S., 1982, Geology

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
20	20	R.G., 1994 (AZ); R.G., 1991 (OR); R.G., 1990 (CA); C.E.M., 1991 (NV); 40-Hour HAZWOPER Site Worker; 8-Hour HAZWOPER Site Supervisor

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	1995	Present
2.	Environmental Solutions, Inc.	1986	1995
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Executive Summary of Career Highlights

Mr. Hess has managed over $40 million in remediation work, coordinating multiple project managers simultaneously on environmental remedial action, removal action, expedited response, pilot and treatability studies, and system O&M. Specific technologies in which he has expertise include capping landfills, pump and treat remediation, bioremediation, SVE, bioventing, air sparging, stabilization/solidification, natural attenuation, thermal treatment, and product recovery. Mr. Hess has experience managing expedited responses and is familiar with federal, state, and local regulations and policies and data quality objectives. He is skilled at monitoring and controlling program and project costs, maintaining high quality of workmanship, and assigning qualified personnel consistent with contract requirements. Mr. Hess thoroughly understands and has enforced environmental regulations including CERCLA, SARA, RCRA, CAA, CWA, SWDA, and TSCA. He has developed excellent relationships with both clients and federal/state regulatory agencies. Specific project experience is as follows.

Hillview-Porter Superfund Site, Palo Alto, California, Project Manager. Developed site and regional hypothesis for chlorinated solvent contamination in soil and groundwater within this site to support preliminary allocation of financial responsibility. Work included a detailed review and critique of remedial investigations for numerous active and former semiconductor and related manufacturing facilities from more than 12 different consultants, identification of potential source areas based on contaminant distribution in soil and groundwater, estimation of time of release based on migration distance of plumes in groundwater and chemical distribution within plumes, and development of potential financial allocation scenarios as part of NBAR process.

MacGillis and Gibbs Pole Treating Facility State Superfund Site – Project Manager. Managed the investigation and closure including development of a RI/FS Work Plan, implementation of a multi-phase RI/FS, completion of a comprehensive RI/FS Report, including health risk assessment, completion of Interim Remediation Measures (IRMs) to mitigate health and environmental concerns, and preparation of the Draft Remedial Action Plan (RAP). IRMs included the removal and recycle/disposal of PCP and CCA treating solutions, waste PCP and CCA sludges, and other hazardous materials, closure of an onsite hazardous waste impoundment, removal of USTs and ASTs, and demolition of onsite structures.

Brief Resume Continued

Confidential Superfund Site – Project Manager. Developed detailed site hypothesis and performed a review of proposed remedial design for major wood treatment facility on National Priorities List. This federal Superfund site contained extensive soil and groundwater contamination from PCP, creosote and CCA, and includes the presence of large quantities of DNAPLs in the groundwater. The review assisted in changing the remedial design in the Record of Decision (ROD) to remedial alternatives for the site which would address the presence of significant concentrations of dioxins/furans.

Hunters Point Naval Shipyard, Program Manager. Managing 14 engineering and remediation projects. Work includes a time-critical removal action for 5,000 yards of soils contaminated with metals and petroleums, oils and lubricants. Completed an investigation requiring sampling from 150 boring locations and additional characterization for metals, VOCs, and radiation exposure from radium dials; technical support and community relations including facilitation of monthly RAB meetings, producing quarterly newsletter and fact sheets and other outreach activities.

Long-term Monitoring and Remedial Action Operations, Davis-Monthan AFB, Arizona, Program Manager. Managed four concurrent DOs for multiple sites. Responsible for monitoring and controlling project costs and quality control and for assigning personnel consistent with contract requirements. Included post-closure O&M of 33-acre landfill and gas recovery and treatment system. Conducting O&M for an 800,000-gallon jet fuel spill, consisting of an SVE system with thermal destruction.

Port of Oakland "As Needed" Environmental Compliance Contract, Program Manager. Managed 2-year $400,000 "as-needed" environmental compliance contract for the Port of Oakland, including sites at Metropolitan Oakland International Airport (MOIA) and marine terminal facilities. Work included soil and groundwater investigations, site assessments, soil and groundwater remediation, and third-party oversight.

Additional Project Experience

- Developed conceptual model of source and distribution of contaminants and long-term remedial cost estimate for chlorinated solvent groundwater contamination from two dry-cleaning facilities located in a strip mall in Stockton, California.
- Managed RI/FSs, remedial design and remediation for multiple sites for a major railroad. Work included closure of current and historic fueling and maintenance facilities, soil and groundwater investigations at former chemical and metal recycling facilities, development of preliminary endangerment assessments (PEAs), and remediation of solid waste, sludges, soil and groundwater contaminated with petroleum hydrocarbons, pesticides and metals.
- Developed recommended remedial alternatives for mercury-contaminated soils at former chemical manufacturing facility in the northeastern United States. Evaluated current and pending federal and state land disposal restrictions for managing of the waste, potential remedial technologies and approaches appropriate to mercury-contaminated soils, legal and regulatory requirements for export of waste to Canada for treatment/disposal, potential for onsite remediation, evaluation of potential cleanup standards, and regulatory requirements for ultimate closure of the site.
- Managed multi-site remedial investigations for a major industrial manufacturing company. Activities included agency negotiations, subsurface soil gas, soil and groundwater investigations, aquifer testing, feasibility studies, and remedial design for sites contaminated with chlorinated solvents and petroleum hydrocarbons.
- Managed numerous RI/FSs for contaminated soil and groundwater. Work included the characterization of soil and groundwater contamination, evaluation of remedial alternatives, including performance of vapor extraction tests to determine the potential effectiveness of vapor extraction on the recovery of VOCs and remedial design.
- Managed groundwater investigation at a major municipal landfill in Central California. Used HydroPunch® technique to collect groundwater grab samples to delineate the aerial and vertical extent of chlorinated VOCs in the groundwater adjacent to and downgradient of the landfill, and to aid in the placement of additional monitoring wells.
- Managed numerous site environmental audits. Work included site walks, review of current and post site use, review of regulatory agency files, and development of area hydrogeologic summaries.
- Managed the onsite sampling and reserve evaluation for tailings pond prior to closure for an active gold mine in California.
- Involved in the investigation of metal speciation to aid in determining the origin of metal contamination in soils at a former scrap metal facility. Work included determining the stability of metal species in soil pH values found at the site, sampling and analysis of background metal concentrations, and an evaluation of possible sources of the metals.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Eric Munro, P.E.	Principal – Construction
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PVI	Area of Expertise Civil Engineering; solidification/stabilization; erosion control; hazardous waste landfill design and closure
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Remediation & Construction Cost Estimator; Project Engineer	Education B.S., 1985, Civil Engineering

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
21	21	Registered Civil Engineer, CA (1992); Licensed General Engineering Contractor, CA (1995); Registered Civil Engineer, FL (1999)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solution, Inc.	2001	Present
2.	IT Corporation	1987	2001
3.	Munro Contractors	1985	1987
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Executive Summary of Career Highlights

Mr. Munro is a Professional Civil Engineer with extensive experience in hazardous waste remediation, construction, and civil engineering. He was most recently project manager for a $24 million fixed priced landfill closure and sports complex construction in Fresno, California. Prior assignments include: everglades restoration projects in southern Florida, which required the excavation of more than 3 million cubic yards of earth; management of more than 12 landfill consolidation and closure projects for the Department of the Navy and the United States Army Corps of Engineers (USACE) Rapid Response; and the remediation of sites contaminated by PCB's, chlorinated solvents, pesticides, leaching metals, jet fuel, gasoline, acids, and medical waste. He has earned numerous National Quality Awards for project mgmt and construction quality control.

Interim Action of Basin F Hazardous Waste Cleanup, Rocky Mountain Arsenal – Site Engineer. Assured conformance to design specifications for the installation of 1.6 million square feet of synthetic membrane plus leachate collection system. Prepared and submitted plans, as-built drawings, and reports to the U.S. Corps of Engineers.

PCB Removal Activities, Alameda Point, California, Technical Manager. Led removal and disposal of 23 PCB-contaminated transformers and sampling drainage, decontamination and disposal of 23 switches. Coordinated extensively with existing contractors and Alameda Power & Telecom. Coordinated ITSI work activities with 25 building tenants.

Point Vicente Lead Remediation Project, Ranchos Palos Verdes, California, Project Manager. Managed fixed price lead decontamination and removal project, under USACE PRAC Contract, resulting from a former U.S. Army small arms rifle range. Optimized excavation and confirmation sampling process to enable completion of the field work in four months and enabling expansion construction to begin ahead of schedule. Managed excavation of a total of 4,842 cubic yards (cy) of soil within hot spots and made great efforts to reused as much soil as possible, approximately 1,200 cubic yards, as site backfill. The City of Ranchos Palos Verdes was extremely pleased with the resulting topographic and vegetative features for this high profile tourist area within an exclusive community.

Various Projects, South Florida Water Management District (SFWMD), West Palm Beach, Florida, Project Manager. Projects included the excavation of 3 million cubic yards of soil to construct more than 25 miles of water management canals in Palm Beach County. The projects also include construction of levees, installation of culverts, pump stations, erosion control features, and water monitoring stations.

Brief Resume Continued

Hybrid Thermal Treatment System (HTTS), Project Engineer. Project engineer on the $50 million HTTS incineration project at the Motco Trust Site in La Marque, Texas. Evaluated waste quantities and characteristics and managed 200,000 cubic yards of oil, sludge, water, and soil waste inventories. Summarized waste material transfer details for depositions in contract dispute litigation. Developed the remediation plans and schedules, implemented the field work modification (FWM) and work order systems. Managed the update of field as-built drawings for the two HTTS units. Prepared monthly reports of incineration progress and production, manpower loading requirements, FWM costs and insurance claims. During construction of the incinerators, managed the documentation and quality control of the installation of 45,000 square feet of slurry wall, 30,000 cubic yard flood control dike, 100 incinerator foundations and the excavation of 10,000 cubic yards of PCB contaminated soil. Provided design review and construction oversight of the sludge and oil waste handling system including concrete tanks, inflatable buildings dredge lines, and oil transfer lines.

Hazardous Waste Solidification and Site Closure, Kelseyville, CA – Resident Engineer/Project Manager. Responsible for achieving waste solidification requirements on 100,000 yd^3 of hazardous waste and implementation of closure plans. Set up site laboratory for conformance testing and trained lab personnel. Documented waste solidification effectiveness, production, and cost. Managed construction cost estimates, field procurement, and administrative tasks.

Construction of Two Hazardous Waste Landfills, Buttonwillow & Rio Vista, CA – Site Engineer/Project Manager. Constructed two 500,000 yd^3 HW landfills. Assured conformance to design specifications of 1.5 million square feet of synthetic membrane. Developed and implemented QA/QC plan insuring design mix for 200,000 yd3 of amended soil liner material using a portable pugmill mixer. Supervised installation and QA/QC testing of over 1 million ft^2 of synthetic membrane cover over solidified hazardous waste ponds.

Fresno Landfill Closure and Sport Complex, Fresno, California, Project Manager. Managed the closure of a 150 acre landfill, construction of a ground water treatment plant, and construction of a 150 acre regional park and sports complex. Ensured proper installation of approximately 140 acres of geosynthetic cap materials, gas collection system with flare, and nearly one million cubic yards of earth. Saved the City of Fresno approximately $700,000. The groundwater treatment plant was constructed and used 7 existing wells to pump and treat contaminated groundwater. The treated water was stored in a constructed lake and later used for irrigating the landfill. The park and sports complex included 10 soccer fields, 6 ball diamonds, 2 concession and rest room buildings, 300 acres of irrigation and planting, one mile of sanitary sewer piping and lift station, 2 miles of potable water lines, 4 miles of storm drain piping, and 100,000 yd^2 of concrete and asphalt concrete paving.

Landfill Closure, Forth Hunter Ligget, California, Project Manager. Managed closure of the Fort Hunter Liggett (FHL) landfill under regulatory jurisdiction of the RWQCB and IWMB. Landfill closure required more than 16 acres of 60 mil LLDPE geomembrane and gas collection geotextile, 120,000 cubic yards of foundation and vegetative layer material, and 50,000 cubic yards of soil screened to one-half inch size. Ensured proper construction of perimeter roads, gas vents, monitoring wells, concrete drainage swales, erosion control blankets, rip-rap and hydroseeding. Project scope of work was increased by more than 200 percent at USACE request upon mobilization. Completed additional work with only a 50 percent increase in schedule and under budget.

Landfill Consolidation and Closure, Lemoore Naval Air Station and Moffett Federal Airfield, Project Manager. Managed the consolidation and closure of the Lemoore Naval Air Station Site 1 Landfill and the Site 1 and 2 Landfills at Moffett Federal Airfield. Provided closure by consolidating more than 145,000 cubic yards of waste and capping of the landfills with more than 400,000 yd^3 of clay and cover soil. Assembled the project staff and organized the project for successful completion. Determined work to be subcontracted or self-performed and defined scope for subcontracts. Managed subcontracts, including technical justifications for award, claims and change orders. Led the work plan effort, construction cost estimate effort, and negotiated the final cost with the Navy. Reviewed landfill designs during conception for constructability and cost effectiveness. Proposed several value-engineered alternative landfill designs-more than $1 million saved.

Landfill Closure and Consolidation at March Air Reserve Base, California, Site Manager. Managed the design and construction activities of the consolidation and closure of more than 10 landfill sites within the base through a contract with the USACE Rapid Response. Designed and constructed two corrective action management units for waste consolidation and closed other landfills in-place. The consolidation effort consisted of excavation, transportation and placement of more than 650,000 cubic yards of municipal waste and contaminated soil. More than 200,000 cubic yards of the waste contained UXO. Approximately 300,000 cubic yards of soil were used for foundation construction, clay liners, cover soil, and revegetation of closed sites. More than 30,000 tons of riprap were used for landfill protection within the 100 year-flood plane. More than 2.2 million square feet of synthetic membrane plus drainage layers were installed for the landfill liners and covers.

Managed the design effort, work plan preparation, construction cost estimates, and negotiations, and resource management to complete the project scope. He coordinated the overall project production, execution and management of daily operations. He defined subcontract scopes and managed the subcontractor's performance. The projects were subject to several environmental constraints including the management and creation of Stephen's Kangaroo Rat habitat, preservation of historically significant archaeological sites, and preservation of wetlands and waterways of the U.S.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Lawrence E. Phillips, R.G.	Senior Project Manager/Office Manager
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*)	Area of Expertise
PVI	Remedial investigations; geology; hydrogeology
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)*	Education
Program Manager; Technical Advisor – Hydrogeology	B.S., Geology (1970)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
40	30	Certified Hydrogeologist, CA (1996); Registered Geologist, AZ & CA (1993 & 1982); see executive summary for more information

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2002	Present
2.	Weston Solutions, Inc.	1999	2002
3.	AMEC (formerly AGRA Earth & Environmental, Inc.)	1998	1999
4.	Jacobs Engineering Group, Inc.	1995	1998
5.	Earth Tech, Inc.	1993	1995
6.	Brown and Caldwell	1985	1993
7.	U.S. Bureau of Reclamation	1975	1985
8.	U.S. Coast Guard	1971	1974
9.	University of Montana	1970	1971
10.	Eastern New Mexico University	1966	1970

Executive Summary of Career Highlights

Mr. Phillips has over 30 years of experience in managing geologists, hydrogeologists, toxicologists, and environmental scientists, conducting remedial investigations and risk assessments at federal, state, municipal, and industrial facilities in California, Arizona, and Nevada. He has extensive experience with RI/FSs (including preparation and review), groundwater investigations, soil investigations, remedial alternative evaluations, hydrogeological evaluations, groundwater modeling, project management, ESAs, and soil and groundwater treatment evaluation and construction. Mr. Phillips responsibilities have included technical and administrative management, proposal preparation, project management, and preparation and review of SAPs and RD/RA plans and reports. He has performed as technical manager and reviewer for project sites that include groundwater extraction and treatment, SVE system installation and operation, and data gap investigations. His registrations and certifications aside those referenced above include Nevada Certified Environmental Manager (1992) and California Certified Engineering Geologist (1989). Mr. Phillips' specific project experience is as follows.

Installation Restoration Program, Davis-Monthan Air Force Base, Tucson, Arizona, Project Manager. Project Manager for various ***RI/FS projects*** at Davis-Monthan AFB as part of their Installation Restoration Program. Projects include Long Term Monitoring of groundwater wells; Remedial Action Operations of two active soil-vapor extraction systems, one at a former JP-4 spill and one at landfill LF-01; installation of additional groundwater monitoring wells to replace dry wells; a ***remedial investigation*** at the site of a former JP-4 and current JP-8 release that included 24 borings to 250 feet, two vapor extraction wells and three vapor observation wells with soil and soil-gas samples collected via a maxi-simulprobe tool; a passive soil-gas survey along the flight line hot refueling pit islands; ***an interim removal action*** at two former aircraft part burial pits; ***a removal action*** at a former aluminum dross burial pit; ***a removal action*** at a former drum burial pit; and ***a RI/FS and removal action*** at a former AAFES facility that included the installation of one groundwater monitoring well and five vapor extraction wells, and the installation of a SVE system.

RI/FS Projects, Six Arizona State Superfund Sites, Phoenix, Arizona, ADEQ, Project Manager/Project Director. These six separate projects consist of conducting ***RI/FSs*** at six facilities in four separate Arizona Water Quality Assurance Fund (WQARF) Registry sites in the West Central Phoenix area. Soil and groundwater beneath the facilities have been impacted by chlorinated solvents. Investigation activities are ongoing at all of the sites. The projects consist of the installation of soil

Brief Resume Continued

borings and groundwater monitoring wells, performing aquifer pumping tests, conducting groundwater modeling, conducting human health risk assessments, and preparing remedial alternatives. The WQARF Registry sites are the East Grand Avenue Plume Site (one facility), the North Plume Site (three separate facilities), the West Osborn Complex Site (one facility), and the North Canal Plume Site (one facility). Passive diffusion bag (PBD) technology was used at the North Plume Site as part of an experiment to determine the effectiveness of the PDB technology. Immediately after sampling each of about 20 wells, a PDB was inserted into the wells. The bags were removed after two weeks and analyzed for the same suite of analytes as were the normal purge and collect samples. The results were compared to evaluate the effectiveness. The overall conclusion was that there was good correlation between the two sampling methods.

Preliminary Site Characterization, Former Santa Rosa Army Airfield, Santa Rosa, California, USACE, Sacramento District, Technical Manager. Provided technical direction and oversight for a preliminary site characterization. Primary tasks included determining the nature and extent of metals contamination in soil beneath a 2.5-acre former sewage treatment plant; locating and assessing the water quality in three former water-supply wells; determining the nature and extent of petroleum fuel and lead contamination in soil and groundwater beneath four former underground storage tank sites; determine the nature and extent of metals and polynuclear aromatic hydrocarbon (PAH) contamination in soil beneath a former skeet shoot range and a former machine gun sighting range; and confirm the existence of former incinerators, photo laboratories, fire training areas, dry cleaners, and reported USTs. Managed collection of 10 soil and two groundwater samples from beneath the former sewage treatment plant. Conducted a passive soil-gas survey at the locations of the former USTs and collected and analyzed eight soil and six groundwater samples to verify soil-gas results. Collected over 300 soil samples from a grid of locations at the former skeet and machine gun ranges and analyzed samples in the field for lead, antimony, copper, and zinc using x-ray refraction (XRF) technology to get real time data. Screened soil samples for PAHs using immunoassay method SW4035 and used fixed-base laboratory for confirmation samples. Reviewed aerial photographs and historical records to determine location of the other suspected facilities. Prepared preliminary site characterization report summarizing results of the fieldwork.

Comprehensive Basewide RI/FS, Castle AFB, California, Air Force Center for Environmental Excellence (AFCEE), Project Manager. Responsible for revising and finalizing the RI/FS for the groundwater operable unit (OU). The RI consisted of the installation of over 300 groundwater monitoring wells, conducting aquifer tests, and collecting groundwater samples. All of the data were assimilated into a three-volume RI/FS report (RI, FS, and risk assessment) with eight appendices. The FS determined that groundwater pump-and-treat was the most technically and economically feasible method at Castle AFB. The RI/FS report was accepted as final by the three regulatory agencies involved (USEPA Region 9, the California Department of Toxic Substances Control [DTSC], and the California Regional Water Quality Control Board [RWQCB]). The RI/FS was used to develop the Record of Decision (ROD), which is now the governing document for all groundwater actions at Castle AFB.

OU 1 Phase 2 Groundwater Extraction and Treatment System Project, Castle AFB, California, AFCEE, Technical Manager. This project consisted of the installation of seven groundwater extraction wells, seven groundwater injection wells, and a 1,300-gallon per minute (gpm) granular activated carbon (GAC) treatment system. Assisted with the determination of the number and location of wells, based on computer simulations. An existing groundwater model (using MODFLOW) was used to determine capture zones and flow paths. The optimum number and location of wells was selected to capture groundwater impacted with halogenated volatile organic compounds (HVOCs), primarily TCE. Determined that six new wells and one existing well could be used to capture contaminated groundwater within the five-micrograms per liter (□g/L) contour line. The new wells ranged in depth from 130 to 400 feet below ground surface (bgs). Completed construction within one year and the system is currently operating at 1,100 gpm.

Castle Vista Landfill B Groundwater Extraction and Treatment System Project, Castle AFB, California, AFCEE, Technical Manager. Managed installation of six new groundwater extraction wells, eight groundwater injection wells, and a 750-gpm GAC treatment system. Assisted with the determination of the number and location of wells, based on computer simulations. Used an existing groundwater model (using MODFLOW) to determine capture zones and flow paths. Selected the optimum number and location of wells to capture groundwater impacted with HVOCs, primarily cis-1,2-dichloroethene (1,2-DCE). Determined that six new wells and one existing well could be used to capture contaminated groundwater within the five µg/L contour line. The new wells ranged in depth from 100 feet bgs to 140 feet bgs. Construction of the new wells and the treatment system was completed within one year and the system is currently operating at 700 gpm. The existing well is a City of Atwater municipal water-supply well, which is 230 feet deep and is capable of pumping 800 gpm. This well may be outfitted with a wellhead GAC system and would continue to supply water to Atwater.

Brownfields Pilot Project, City of Ogden, Utah, Project Manager. Project manager for a comprehensive Phase I Environmental Site Assessment of a four-block Priority Area in Ogden. The area was identified by Ogden City for assessment under the EPA Brownfields Pilot Program. The primary objective of the Pilot Project was to define the uncertainties and identify the potential liabilities associated with contamination at sites located within area. Made recommendations for additional characterization work prior to development of the area.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:

Name of Individual	Title
Andrew Sabin, Ph.D.	Senior Geologist, Mining
Personnel Classification/Level (*Reference ASRAC Statement of Work Table 1*) PVI	Area of Expertise Tailings Remediation/Bank Stabilization; Remedial Investigations
Proposed Project Role (*e.g. Project Manager, Project Engineer, Project Hydrologist, etc.)* Technical Advisor - Mining	Education Ph.D., Economic Geology (1994); M.S., Geology (1985); B.S., Geology (1979)

Years of Experience	Years of Related Experience	Registrations and Certifications Held and Year Received
28	28	OSHA 40-hour Hazardous Waste Site Worker (1999); OSHA 8-Hour Refresher (current); GIS and ArcView 3.0 (1995, 1998)

Employment History

	Firms Name	Start Date	End Date
1.	Innovative Technical Solutions, Inc.	2001	Present
2.	Montgomery Watson	1998	2001
3.	China Lake Naval Air Weapons Station, Geothermal Program Office	1991	1998
4.	Colorado Mountain College and Cerro Coso Community College	1996	2000
5.	Aspen Exploration Corp.	1991	1991
6.	Placer Dome U.S., Inc.	1990	1990
7.	AMAX Gold, Inc.	1990	1990
8.	U.S. Bureau of Mines, Minerals Availability Field Office	1984	1990
9.	U.S. Bureau of Mines, Mineral Land Assessment	1981	1983
10.	U.S. Bureau of Mines Research Center and University of Maryland	1978	1981

Executive Summary of Career Highlights

Dr. Sabin has extensive and highly diverse environmental, energy, and mining project experience. Throughout his domestic and international project experiences, he has maintained a hands-on approach to work, performing sampling, logging, geophysical data acquisition and mapping while efficiently managing all aspects of field, laboratory, and office-related tasks. He has performed and overseen multi-disciplinary geological, geochemical, and hydrogeological investigations in support of mining, including ARD analyses, geochemical/geotechnical characterizations, geologic/hydrogeological mapping, environmental assessments, drilling/logging, QA/QC analyses and permitting. Dr. Sabin also spent seven years in the Mojave desert performing mapping, drilling, logging, and sampling. Dr. Sabin's specific project experience includes the following.

Tailings Site Investigation, Senior Geologist/Site Project Manager. Led field teams in drilling, sampling, logging, and mapping program in support of characterization of the geological setting of a proposed tailings dam at Tintaya copper mining district in the southern Andes of Peru. Also designed and performed a water sampling and analysis program to determine potential influence of leaking tailings dam on local spring water supplies. Twenty-four hour drilling schedules and multi-tasking of small local and ex-patriot work crews were required to efficiently and safely meet deadlines in this time-critical project.

TCE Remedial Investigation, Moses Lake NPL Site, Senior Geologist. Provided geological/hydrogeological support to ongoing RI into the extent and setting of TCE contamination in shallow basalt aquifers at this NPL site in central Washington. Work included drilling, core logging, sampling and hydraulic testing of the Columbia River basalt flow. Results of logging suggested that the varied (qualitatively determined) permeabilities of multiple, discrete basalt flow units may not be amendable to predicting TCE flow paths.

Selenium Investigation, Idaho Miners Association, Senior Geologist. Performed sampling and analysis to characterize extent of selenium associated with regional phosphate mining. Proactive organization funded work to forestall possible designation under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Quarterly Groundwater Monitoring, California Gulch (NPL site) Region, Colorado, Senior Geologist. Performed monitoring and analysis of surface water and soils in support of ongoing characterization.

Brief Resume Continued

Quarterly Groundwater Monitoring, California Gulch (NPL site) Region, Resurrection Mining Company, Leadville, Colorado, Senior Geologist. Metal loading and ongoing surface water geochemical characterization of California Gulch (NPL site) region. Performed monitoring and analysis of surface water and soils in support of ongoing characterization. Trichloroethylene (TCE) Remedial Investigation (RI), Moses Lake, US Army Corps of Engineers (USACE)/EPA – Senior Geologist. Provided geological/hydrogeological support to investigation into the concentrations, flow paths and geologic setting of TCE contamination in Columbia River basalt flows aquifers at the Moses Lake NPL site, central Washington. Work included drilling, logging, sampling, and hydraulic testing of multiple stratigraphic horizons as well as reporting of results. Results provided an understanding of extent of TCE contamination and suggested that laterally and vertically variable permeabilities of multiple, poorly defined discrete basalt flow units was not be amendable to conventional (and ongoing, at the time) modeling efforts.

Trichloroethylene (TCE) Remedial Investigation (RI), Moses Lake, US Army Corps of Engineers (USACE)/EPA, Senior Geologist/Hydrogeologist. Provided geological/hydrogeological support to investigation into the concentrations, flow paths and geologic setting of TCE contamination in Columbia River basalt flows aquifers at the Moses Lake NPL site, central Washington. Determined the basalt stratigraphy and hydrogeologic setting of the Moses Lake region, central Washington in order to characterize the potential flow paths of TCE. Work included drilling, logging, sampling, and hydraulic testing of multiple stratigraphic horizons as well as reporting of results. Results provided an understanding of extent of TCE contamination and suggested that laterally and vertically variable permeabilities of multiple, poorly defined discrete basalt flow units was not be amendable to conventional (and ongoing, at the time) modeling efforts.

Lead Remediation, USACE, Fort Ord, Monterey, California, Senior Geologist/Project Manager. Developed a dry separation lead remediation technology for the clean up of small arms firing ranges. A demonstration project was performed using this technology to assist USACE and Army in small arms remediation efforts at the former Fort Ord.

Idaho Miners Association Working Group, Senior Geologist. Performed field studies, GIS construction and geochemical analysis in support of characterization of toxic elements associated with phosphate mining. Work included collection of soil and water sediment samples for heavy metal analyses.

Geothermal Exploration, Coso Mountains, California, Senior Geologist. Performed deep drilling, logging, sampling and analysis, in addition to mapping and geophysical data acquisition and analysis, in order to understand and ultimately expand the Coso geothermal field. Logging included hand sample identification, electronic and acoustic logging, and Formation MicroScanning. Also investigated the stratigraphy, petrography, geochemisty (isotope, trace metal, bulk geochemical) $^{40}Ar/^{39}Ar$ geochronology, and potential field geophysics of the northern Mojave Desert and participated in a GIS development to support geothermal exploration.

Steamboat Springs, Colorado, Senior Geologist. Performed and oversaw geological, geochemical, and hydrogeological investigations primarily in support of mining, including ARD work, geochemical/geotechnical characterizations, geologic/hydrogeological mapping, environmental assessments, drilling/logging, QA/QC analyses and permitting.

Methane Abatement, USACE, Hamilton Army Air Field, Novato, California, Senior Geologist. Assisted in the design of a soil vapor extraction trench for active and passive removal of methane from a closed landfill at the former Hamilton Army Air Field. The design is predicated on an understanding of the hydrostratigraphic horizons in order to design a system that consistently captures methane gas.

Bank Erosion, Colma Creek, City of South San Francisco/San Bruno, California, Senior Geologist. Investigation and analysis to remedy bank erosion that threatened a wastewater treatment plant. Drilling, analysis, and surface flow water modeling (HEC-RAS) supported articulated mat solution.

US Army Corps of Engineers, Sacramento, Technical Lead. Project to demonstrate a developing technology for lead remediation at small arms firing ranges. Conducted literature and internet search and evaluation to ascertain state of the art lead treatment technology information. Developed hypothesis for more cost-effective treatment of lead in soil. Technical manager for ongoing research and subsequent bench- and pilot-scale demonstrations.

US Army Corps of Engineers, Sacramento, Senior Geologist/Hydrogeologist and Technical Manager. Developed a SVE trench for both active and passive removal of methane and other organic compounds from a landfill at former Hamilton Army Air Field.

City of San Francisco, Colma Creek Bank Stabilization, Senior Geologist/Hydrogeologist. Led field investigation to ascertain the causes of erosion that threatened an adjacent wastewater treatment plant. Recommended and designed a remediation technology. Modeled flow (HEC-RAS) for design specification determinations.

Geothermal Program Office, China Lake, California, Geologist. Developed an implemented geothermal exploration programs at China Lake NAWS (CA), MCAGCC Marine Base (CA), Sierra Army Depot, Ft. Huachuca Army Base (AZ), Yuma Army Base (AZ), and Chocolate Mountains (CA). Conducted resource management studies at Coso geothermal field. Performed field investigations with GIS and potential field GP in support of related research (e.g., stratigraphy and landform analyses for Garlock fault reconstruction).

15. Provide an organizational chart showing the staffing and lines of authority for the key persons to be used under this contract.

See attached organizational chart. The organizational chart includes all 36 ITSI personnel who are counted in Block 11 of this Professional Services Questionnaire (PSQ) as expected to work on projects awarded under this contract. This includes the 30 ITSI key personnel (defined as Professional Level III and higher) whose resumes are provided as part of this PSQ (Block 14) and who are also listed on the Staff Experience Matrix. The organizational chart also includes an additional six ITSI personnel who do not meet the requirements for Professional Level III or above but who are expected to contribute to projects awarded under this contract.

Innovative Technical Solutions, Inc.
ORGANIZATIONAL CHART
Section 15 – Professional Services Questionnaire
State of Arizona Pollutants Solicitation No. SCC-06-0000

PROGRAM MANAGER
Lawrence E. Phillips, R.G. (PVI)

PROJECT MANAGERS
Rachel B. Hess (PV)
Richard Horne (PV)
Nancy A. Nesky, E.I.T. (PV)
W. Charles Shafer, P.E. (PV)
David Wineman, R.G. (PV)
Eric Ehlers (PIV)
Frank Van Alstine (PIV)

VICE PRESIDENT
Tej P. Singh (PV)

TECHNICAL ADVISORS AND QA/QC

Geology
Jeffery D. Hess, R.G. (PVI)

Mining
Andrew Sabin, Ph.D. (PVI)

Hydrogeology
Lawrence E. Phillips, R.G. (PVI)

Environmental Science
Richard Horne (PV)

Remedial Engineering
Robert Lindfors, P.E. (PV)

Ecology
Dan R. Ledford (PIV)

HEALTH & SAFETY PROGRAM MANAGER
Irene S. Fanelli, C.I.H. (PVI)

COMMUNITY INVOLVEMENT
Nancy A. Nesky, E.I.T. (PV)
Joni Jorgensen-Risk (PIII)

ADMINISTRATIVE SUPPORT
Andrea Ohnstad (SII)
Nora Phillips (SII)

PROJECT GEOLOGISTS AND HYDROGEOLOGISTS
Arvind Acharya, R.G., CEG (PV)
Roberta A. Bowen, R.G. (PV)
Rachel B. Hess (PV)
Peter Lange, R.G., CHG, CEM (PV)
Kenneth Leonard, R.G. (PV)
Ralph Arcangeli, R.G., P.E. (PIV)
Clare Gilmore (PIV)
Tim Watchers, R.G. (PIII)

PROJECT ENGINEERS AND COST ESTIMATORS
Eric Munro, P.E. (PVI)
Tej P. Singh (PV)
Robert Lindfors, P.E. (PV)
Nancy A. Nesky, E.I.T. (PV)
Lawrence P. Onyskow, P.E. (PV)
Richard E. Purdue, P.E. (PV)
W. Charles Shafer, P.E. (PV)
Ralph Arcangeli, R.G., P.E. (PIV)
Eric Ehlers (PIV)

CONSTRUCTION MANAGERS AND INSPECTORS

Construction Managers
Larry Chase (PV)
Timothy A. Dority (FSM)

Construction Inspectors
Colin Stephens (FSM)
James Thompson (FSIII)

WASTEWATER TREATMENT PLANT OPERATOR
James Tombaugh (FSM)

ENVIRONMENTAL SCIENTISTS/ECOLOGISTS
Frank Van Alstine (PIV)
David J. Bowers (PIII)
Joni Jorgensen-Risk (PIII)
Rebekah J. Weekly (PIII)

DATA MANAGEMENT AND VALIDATION
Evelyn H. Dawson (PIV)
Peggy Cota (PIII)

LEGEND
- Direct Management Responsibility
- Indirect Management Responsibility
- Supervisory Role

16. Complete the Pricing Schedule in its entirety.

Support Services	Minimum Responsibilities, Qualifications and Education	Base Hourly Rate
Support Level I	Responsibilities: Clerical, word processing, filing, general administration. Qualifications: Entry level, no experience restriction. Education: No education restriction.	**$ 28.00**
Support Level II	Responsibilities: Drafting, project manager's assistant, graphics. Qualifications: 1 - 2 years experience. Education: No education restriction.	**$ 40.00**
Support Level III	Responsibilities: Drafting supervisor, administrator supervisor, Senior Word Processor. Qualifications: 2 - 4 years experience. Education: No education restriction.	**$ 45.00**
Field Services	**Minimum Responsibilities, Qualifications and Education**	**Base Hourly Rate**
Field Services Level I	Responsibilities: Closely supervised; conducts routine heavy labor during equipment installations; sampling/gauging, equipment maintenance. Qualifications: Entry level, 1 - 2 years of experience. Education: No education restriction.	**$ 38.00**
Field Services Level II	Responsibilities: Limited supervision; occasional heavy labor; sampling/gauging, equipment installations, operations, troubleshooting. Qualifications: 2 - 4 years of experience. Education: No education restriction.	**$ 45.00**
Field Services Level III	Responsibilities: Supervises on-site tasks such as system installations and operations, trouble shooting; technical advisor. Qualifications: 5 - 7 years of experience. Education: No education restriction.	**$ 59.00**
Field Services Staff **(Cultural resource surveys or archaeological studies and data recovery only)**	Responsibilities: Limited supervision; experience in historic and prehistoric archaeological investigations, reconnaissance and intensive surveys. Qualifications: 1 - 2 years experience/knowledge of the history and prehistory of Arizona. Education: Bachelor's degree in archeology required.	**$ 60.00**
Field Services Manager	Responsibilities: Overall supervision of field services staff; works with Project Managers on scheduling and coordination. Qualifications: 7 - 9 years of experience. Education: No education restriction.	**$ 73.00**
Professional Personnel *	**Minimum Responsibilities, Qualifications and Education**	**Base Hourly Rate**
Professional Level I	Responsibilities: Close supervision, routine tasks associated with environmental projects. Qualifications: 1 - 2 years of experience. Education: Bachelor of Science (BS) degree.	**$ 43.00**
Professional Level II	Responsibilities: Collects and interprets data, report writing, provides project input. Qualifications: 2 - 4 years of experience Education: Bachelor of Science (BS) degree.	**$ 62.00**
Professional Level III	Responsibilities: Limited supervision, independent fieldwork, oversees Professional Levels I and II. Qualifications No. 1: 4 - 6 years of experience with Bachelor of Science (BS) degree. Qualifications No. 2: 1-2 years of experience with Masters degree.	**$ 70.00**
Professional Level IV	Responsibilities: Manages projects of moderate scope, prepares cost estimates, supervises others. Qualifications No. 1: 6 - 8 years experience with Bachelor of Science (BS) degree or registration (PE or RG). Qualifications No. 2: 3 - 4 years of experience with Masters degree.	**$ 85.00**
Professional Level V	Responsibilities: Senior technical leader for environmental projects, QA of Project Plans, report review. Qualifications: 8 or more years of experience. Education: Advanced degree in field or registration (PE or RG). ***** Must meet both the experience & education requirements *****	**$ 97.00**
Professional Level VI	Responsibilities: Recognized registered professional, resident expert, expert testimony, QA of Project Plans and report review and/or Oversees and coordinates all levels of personnel, senior technical leader and has signature authority. Qualifications No. 1: 5 or more years in field project formulation, survey, excavation and technical reporting experience. Education No. 1: Doctorate degree and registration (PE or RG). Qualifications No. 2: 12 or more years of experience. Education No. 2: Advanced degree in field and registration (PE or RG). Qualifications No. 3: 20 or more years in field project formulation, survey, excavation and technical reporting experience. Education No. 3: Bachelor of Science (BS) degree in applicable field of study. ***** Must meet both the experience & education requirements *****	**$ 105.00**

* There will be multiple technical disciplines that will fall under the descriptions of each professional level. A geologist, engineer, public involvement specialist, or environmental scientist with one year environmental experience would each fall under a Professional Level I.

Aggregate Hourly Rate Total:	**$ 850.00**

17. Complete the Rental Equipment Pricing Schedule in its entirety.

Equipment Name	Price Per Day	Price Per Week	Price Per month
Vehicle	$85.00	$485.00	$1360.00
Generator	$ 75.00	$ 245.00	$ 720.00
Interface Probe	$ 70.00	$ 215.00	$ 640.00
Organic Vapor Meter	$ 100.00	$ 290.00	$ 865.00
pH / EC / Temp Meter	$ 35.00	$ 100.00	$ 290.00
PID	$ 100.00	$ 290.00	$ 865.00
FID	$ 155.00	$ 505.00	$ 1,475.00
Hnu	$ 100.00	$ 290.00	$ 865.00
Draeger Pump	$ 30.00	$ 80.00	$ 230.00
CGI (Combustible Gas Indicator)	$ 100.00	$ 290.00	$ 865.00
Bladder Pump	$ 115.00	$ 290.00	$ 865.00
Cetrifugal Pump	$ 115.00	$ 290.00	$ 865.00
Peristaltic Pump	$ 60.00	$ 175.00	$ 520.00
Water Level Indicator (300 feet)	$ 35.00	$ 100.00	$ 290.00
Metal Detector	$ 35.00	$ 130.00	$ 450.00
Steam Cleaner	$ 130.00	$ 415.00	$ 985.00
Air Compressor	$ 55.00	$ 230.00	$ 625.00
Dissolved Oxygen Meter	$ 60.00	$ 180.00	$ 525.00
Submersible Pump	$ 175.00	$ 520.00	$ 1560.00
Turbidity Meter	$ 50.00	$ 175.00	$ 525.00
Mini Ram	$ 100.00	$ 290.00	$ 860.00
Bailer (reusable)	$ 8.00	$ 30.00	$ 100.00
Hand Auger (AMS Soil Auger Kit)	$ 70.00	$ 215.00	$ 635.00
Impact Sampler (AMS Soil Auger Kit)	$ 70.00	$ 215.00	$ 635.00
GPS Equipment (Megellan Meridian Gold, 3 Meter Accu.)	$ 15.00	$ 35.00	$ 100.00
Flow Meter	$ 40.00	$ 120.00	$ 350.00
Discrete Interval Sampler	$ 100.00	$ 290.00	$ 740.00
Flow Through Cell	$ 30.00	$ 90.00	$ 255.00
Pressure Transducer, Cable and Data Logger	$ 115.00	$ 325.00	$ 985.00

18. Use this space to provide any additional information or description of resources (including any computer design capabilities) supporting your firm's qualifications for the proposed contract.

Innovative Technical Solutions, Inc. (ITSI) is a national full-service environmental engineering and remediation services company. As an 8(a) certified small disadvantaged business with over 260 personnel and both General Engineering and Hazardous Waste Contractors' licenses, ITSI provides clients with innovative and proven techniques to solve environmental needs in the areas of consulting, investigations, engineering design, civil construction, and remediation services. ITSI provides comprehensive environmental services focused on delivering efficient solutions that minimize client costs and risks, and are readily acceptable by regulatory agencies. ITSI systematically saves clients significant costs associated with environmental consulting and remediation activities through application of risk based approaches, teaming with the clients, and proactive negotiation with regulatory agencies.

ITSI has offices located throughout the United States, including a local office in Tempe, Arizona. With 15 technical and two support personnel, ITSI's Tempe office offers an extensive range of environmental consulting services and will be providing the primary services for this contract. Other select ITSI personnel shown on the Staff Experience Matrix (PIII-PVI) and other ITSI staff (below PIII) in and outside of the Tempe office will provide support as needed. ITSI has full in-house production capabilities in the Tempe office, allowing the timely production of quality reports and graphical presentations. Our environmental consulting services include preparation and implementation of the following.

- Phase I and Phase II ESAs
- Site Assessments, PA/SI, & Brownfield Assessments
- FUDS (Formerly Used Defense Site) Remediation
- Remedial Action Plans / Remediation System Design
- Risk Assessment/Risk Based Corrective Actions
- Slope and Bank Stabilization / Wetlands Remediation
- Remedial Investigations & Feasibility Studies
- Air Monitoring
- Environmental Permitting
- Planning Documents: WP, FSP, SAP, QAPP, HASP
- ISO 140001 Environmental Management Systems
- Data Management and Validation

In addition to the staff represented on the Staff Experience Matrix, ITSI also has many experienced personnel that have relevant training and military experience in lieu of a B.S. degree, which is a requirement for any of the Professional Levels. Thus, ITSI's labor rates are extremely competitive when compared to larger firms. Furthermore, many of our staff listed on the Staff Experience Matrix qualifies for a higher level than where they are listed; however, ITSI has delegated these staff at a Professional Level not higher than the ones listed on the Matrix, which demonstrates ITSI's commitment to provide superior service at a very reasonable cost.

Several of ITSI's long-term projects have involved the short-term re-assignment of ITSI staff from other offices to ITSI's Tempe office when it is in the best interest of the client and project. In the event that out-of-state personnel are brought to Arizona, all estimated travel costs (if proposed to be charged to a project) will be submitted to the Using Agency for review and approval prior to travel. Where appropriate, ITSI will not invoice a Using Agency for travel charges, e.g., when personnel are already in Arizona for other projects, proposals, site visits, or project meetings. ITSI will also use conference calls to facilitate meetings between Using Agency and ITSI staff who may not be located in the Tempe office.

In the event that additional supplies and/or equipment that is not listed on the Rental Equipment Pricing Schedule is necessary to complete a project, ITSI will provide unit rates as part of any cost estimate submitted for a task assignment for the Using Agency to review.

ITSI understands that there are many state agencies that may use this contract. In addition to the typical soil and groundwater remediation projects, ITSI also offers experience at unique cleanup sites, including FUD sites that may include munitions and explosives of concern in addition to the "typical" VOCs, metals and pesticides found and many other cleanup sites. Since there are nearly 300 FUD sites in Arizona, the personnel at ITSI believe that experience in assessment, prioritization and remediation of these types of sites is advantageous to particular agencies that may use this contract.

As a flexible company celebrating our 10th anniversary in 2004, ITSI is a financially strong 8(a) business with revenue for the year 2004 of $33 million, $66 million in contract capacity, and $60 million in bonding capacity. With a 90 percent repeat customer rate, outstanding ratings, and numerous commendations from clients, ITSI can be trusted to successfully deliver complex projects.

ITSI's partnering with clients results in an effective relationship that delivers cost-effective services that meet both client and regulatory agency goals. ITSI received the 2001 Small Business Admin (SBA)/Dept of Commerce National Minority Enterprise Business of the Year Award, recognizing ITSI's steadfast commitment to quality performance and superior achievement. It closely followed ITSI's 2001 Region 9 SBA Firm of the Year honor. ITSI has also received numerous other awards for providing excellence in client service and satisfaction. The professionals at ITSI look forward to providing similar service to the State of Arizona and other agencies that may use this contract.

EXPERIENCE PROFILE CODE NUMBERS
(FOR USE WITH QUESTIONS 9 AND 10)

Experience Profile Code Numbers (for use with questions 9 and 10)

001	Acoustics, Noise Abatement	045	High-rise; Air-Rights-Type Buildings	089	Rehabilitation *(Buildings; Structures; Facilities)*
002	Aerial Photogrammetry	046	Highways; Streets; Airfield Paving; Parking Lots	090	Resource Recovery; Recycling
003	Agricultural Development; Grain Storage; Farm Mechanization	047	Historical Preservation	091	Radio Frequency Systems and Shieldings
004	Air Pollution Control	048	Hospital and Medical Facilities	092	Rivers; Canals; Waterways; Flood Control
005	Airports; Navaids; Airport Lighting; Aircraft Fueling	049	Hotels; Models	093	Safety Engineering; Accident Studies; OSHA Studies
006	Airports; Terminals and Hangers; Freight Handling	050	Housing *(Residential; Multi-Family; Apartments; Condominiums)*	094	Security Systems; Intruder and Smoke Detection
007	Arctic Facilities	051	Hydraulics and Pneumatics	095	Seismic Designs and Studies
008	Auditoriums and Theaters	052	Industrial Buildings; Manufacturing Plants	096	Sewage Collection; Treatment; Disposal
009	Automation; Controls; Instrumentation	053	Industrial Processes; Quality Control	097	Soils and Geologic Studies; Foundations
010	Barracks; Dormitories	054	Industrial Waste Treatment	098	Solar Energy Utilization
011	Bridges	055	Interior Design; Space Planning	099	Solid Wastes; Incineration; Landfill
012	Cemeteries *(Planning and Relocation)*	056	Irrigation; Drainage	100	Special Environments; Clean Rooms, etc.
013	Chemical Processing and Storage	057	Judicial and Courtroom Facilities	101	Structural Design; Special Structures
014	Churches; Chapels	058	Laboratories; Medical Research Facilities	102	Surveying; Platting; Mapping; Flood Plain Studies
015	Codes; Standards; Ordinances	059	Landscape Architecture	103	Swimming Pools
016	Cold Storage; Refrigeration; Fast Freeze	060	Libraries; Museums; Galleries	104	Storm Water Handling and Facilities
017	Commercial Building *(low rise)*; Shopping Centers	061	Lighting *(Interiors; Display; Theatre, etc.)*	105	Telephone Systems *(Rural; Mobile; Intercom, etc.)*
018	Communications Systems; TV; Microwave	062	Lighting *(Exteriors; Streets; Memorials; Athletic Fields, etc.)*	106	Testing and Inspection Services
019	Computer Facilities; Computer Service	063	Materials Handling Systems; Conveyors; Sorters	107	Traffic and Transportation Engineering
020	Conservation and Resource Management	064	Metallurgy	108	Towers *(Self-Supporting and Guyed Systems)*
021	Construction Management	065	Microclimatology; Tropical Engineering	109	Tunnels and Subways
022	**Corrosion Control; Cathodic Protection; Electrolysis**	066	Military Design Standards	110	Urban Renewals; Community Development
023	Cost Estimating	067	Mining and Mineralogy	111	Utilities *(Gas and Steam)*
024	Dams *(Concrete; Arch)*	068	Missile Facilities *(Silos; Fuels; Transport)*	112	Value Analysis; Life-Cycle Costing
025	Dams *(Earth; Rock);* Dikes; Levees	069	Modular Systems Design; Pre-Fabricated Structures or Components	113	Warehouses and Depots
026	Desalinization *(Process and Facilities)*	070	Naval Architecture; Off-Shore Platforms	**114**	**Water Resources; Hydrology; Groundwater**
027	Dining Halls; Clubs; Restaurants	071	Nuclear Facilities; Nuclear Shielding	115	Water Supply; Treatment and Distribution
028	Ecological and Archeological Investigations	072	Office Buildings; Industrial Parks	116	Wind Tunnels; Research/Testing Facilities Design
029	Educational Facilities; Classrooms	073	Oceanographic Engineering	117	Zoning; Land Use Studies
030	Electronics	074	Ordnance; Munitions; Special Weapons		
031	Elevators; Escalators; People-Movers	075	Petroleum Exploration	**200**	**Remedial Investigation/Feasibility Study**
032	Energy Conservation; New Energy Sources	076	Petroleum and Fuel *(Storage and Distribution)*	**201**	**Remedial Design**
033	**Environmental Impact Studies, Assessments, or Statements**	077	Pipelines *(Cross-Country – Liquid and Gas)*	**202**	**Remedial Action**
034	Fallout Shelters; Blast-Resistant Design	078	Planning *(Community, Regional, Areawide and State)*	203	_____
035	Field Houses; Gyms; Stadiums	079	Planning *(Site, Installation, and Project)*	204	_____
036	Fire Protection	080	Plumbing and Piping Design	205	_____
037	Fisheries; Fish Ladders	081	Pneumatic Structures; Air-Support Buildings	206	_____
038	Forestry and Forest Products	082	Postal Facilities	207	_____
039	Garages; Vehicle Maintenance Facilities; Parking Decks	083	Power Generation; Transmission; Distribution	208	_____
040	Gas Systems (Propane; Natural, etc.)	084	Prison and Correctional Facilities	209	_____
041	Graphic Design	085	Product; Machine and Equipment Design	210	_____
042	Harbors; Jetties; Piers; Ship Terminal Facilities	086	Radar; Sonar; Radio and Radar Telescope	211	_____
043	Heating; Ventilating; Air Conditioning	087	Railroad; Rapid Transit	212	_____
044	Health Systems Planning	088	Recreation Facilities *(Parks; Marinas, etc.)*	213	_____